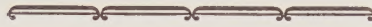


THE MODERN SCHOOLMAN

A Quarterly Journal of Philosophy

MARCH 1941



ST. THOMAS ON INDIVIDUATION

Joseph B. Wall

THE NEW ETHICS

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SCHOLASTIC BIBLIOGRAPHY

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A Discussion

Editorial

Reviews

THE MODERN SCHOOLMAN

Published Quarterly from November to May at Saint Louis University

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Entered as second-class matter December 1, 1928, at the post office at St. Louis, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of Oct. 3, 1917, authorized on Jan. 15, 1929.

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THE MODERN SCHOOLMAN

A Quarterly Journal of Philosophy

Vol. XVIII, No. 3

Published at St. Louis University

MARCH 1941

The Mind of St. Thomas on the Principle of Individuation

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TWO things will strike one who reads St. Thomas on the Principle of Individuation. First, he almost invariably joins it with an account of cognition; and secondly, he treats this question which in the schools is considered subtle and difficult, as simple, even obvious. It may be of some benefit to students, then, to place the question in the setting in which Thomas saw it. If we express the problem in terms of his teaching on the nature of man's mind and its proper object, it may be a slightly different question that we see.¹ Perhaps, even, it will become clear how he could regard the answer as obvious. This paper is an attempt to test that possibility pragmatically.²

I Knowledge of Bodies

The world of bodies in which God has placed us is the work of His hands; it is His artistry. Now art is the externalization of the artist's idea. Every body, therefore, since it owes its very being to the Divine Artist is essentially a divine idea.³ But are not ideas eternal, immutable? If bodies be ideas, whence is it that they are contracted to the narrow confines of time and space, are subject to the ebb and flow of being as we know it?

Within the Divine Mind an idea is a form; it is the exemplar of all the perfection of a being. But those ideas which are the exemplars of bodies are more, or rather, less than this; for they include within their comprehension destiny for a mysterious reality, of itself nothing, but which, when united with form, is the principle whereby a body has but a tenuous grip on its own being. We call this matter. Remember, the idea that God has of a body is not one of a form alone. God's idea is as truly the

exemplar of the matter as it is of the form.⁴ And the realization of this idea is had in a composite: a thing of form, whence it takes its place in the realm of being; a thing of matter, whence it takes its place in the realm of crippled being that is the world of sense.

The purpose of this world of bodies is the only purpose worthy of God—His own glory. But you cannot add to the infinite; the world does not add to God's intrinsic glory. Rather it serves to manifest that glory to His creatures; it adds to His extrinsic glory. The Divine Artist is honored when His creatures appreciate His artistry. Now if this be the purpose of corporeal creation, there must be beings whose function it is to realize such a plan, beings, that is, whose nature is to rise from knowing the world of sense to realizing the power and wisdom of God. We men know that this is our place in the divine plan.⁵

The process by which we fulfill our role of seeing God in His effects begins in our grasping the divine idea that is at the heart of any body. This is intellection. For St. Thomas intellection is union,⁶ and union so complete that it must be defined as a kind of becoming. The mind becomes in a psychic manner the object that it contemplates. For bodies are what they are in virtue of their containing an idea which is in the mind of God; and if our minds contain the same idea, as they do in intellection, then in an immaterial, but very real sense they have become their objects.⁷

Our experience of human intellection teaches us this intimate union that is the essence of intellection, but we must take care that it does not cause us to consider as belonging to the nature of intellection as such, properties that are peculiar to the intellect of man. Depending as it does on a body, the human mind is lowest and weakest in the hierarchy of intellectual being. Its direct perception is limited to what the senses present to it, limited therefore

¹ This is not to say, of course, that the teaching of the various manuals of Thomistic philosophy on this subject is untrue to St. Thomas; but only that their treatment, divorced as it generally is from his theory of cognition, leaves the student liable to missing his point.

² This paper is an attempt to follow the thought of St. Thomas. To that end, I have regarded originality as a temptation. I have tried to give enough citations from St. Thomas to enable a student to make an intelligent judgment on whether or not the text of the article represents his consistent teaching. However, nothing very ambitious is claimed for these references. In the first place, they do not by any means represent all of the places where he treats the subjects referred to. In the second place, no claim is made that each reference is in easy and obvious confirmation of the article.

³ S.T. I. 14. 8, 15. 1, 2, 3; I Sent., d. 36. 1. 1, 2. 1, 2, 3; De Ver. 3. 1, 2, 3. (These and all references are to the Vivès edition, Paris, 1871.)

⁴ S.T. I. 14. 11; Sum. c. Gent. I. 65; I Sent., d. 36. 2. 3 ad 2; De Ver. 2. 5, 3. 5.

⁵ S.T. I. 14. 8 ad 3, 65. 2, 88. 3; II Sent., d. 1. 2. 1, 2, 3; Sum. c. Gent. II. 45, 46.

⁶ This is a capital point. To conceive of intellection as anything less than union (e.g. as essentially representation) is, I think, to destroy St. Thomas' argument as outlined in this article.

⁷ S.T. I. 14. 1, 55. 2 ad 2, 85. 2 ad 1; I Sent., d. 35. 1. 1 ad 3; De Spirit. Creat., art. 8 ad 14; De Ver. 8. 6c.; Quodlibet. VII. art. 2; In III de An., lect. 13.

to those ideas whose comprehension includes matter.⁸ From this limitation follows the essentially abstractive nature of human contemplation. The objects which I contemplate are composed of form and matter. Form can act on my mind to remove its indetermination, but matter cannot. Hence my intellection is union with only part of its object. It is union with the intelligible part of semi-intelligible reality. It is, therefore, abstractive; it is understanding a being by considering its form and ignoring, that is, abstracting from, its matter.⁹

Partial Knowledge of the Object

Since the object of my mind has two parts, matter and form, and since I apprehend only one of them, I do not know the whole object. But further, even the form, the part I do grasp, I do not know correctly. In the object it was intimately bound to the matter, and my mind has isolated it, conceived it apart from its matter. I have deformed it. True, I have not changed its nature; but I have separated that nature from a necessary relationship to its material complement, and there is nothing in the world of bodies that corresponds precisely with an idea thus separated.¹⁰ Now this separation must not be understood as the separation of one physical part from another; the relationship to matter which I have lost was not part of the form; nor did it belong to part of the form. Indeed the form has no real parts. By all that it is, it is the relationship to this matter; I have lost something that belongs to the whole form. Consequently, the imperfection of my union with the form is not that I am united to only part of it; no, I am united with the whole form, but imperfectly united with it. Under one aspect, its internal nature, I have it; under another, its relation to its matter, I miss it completely.¹¹

In grasping it thus I have not added anything to the form; nor have I denied any truth about it; I have simply prescinded from part of the truth. My knowledge, then, is true; but it cannot be the whole truth. And this is why it is universal. The whole truth about any object must be peculiar to that object, for it must embrace that which distinguishes it from others. But there is no reason why partial truth cannot be shared by another. St. Thomas takes an example from sensation. A perfectly clear phantasm of Jones cannot be confused with one of Smith because it embraces the features that distinguish Jones from Smith. But if Jones is a mile away so that I cannot distinguish his features, the phantasm I have is so imperfect that it might just as well be one of Smith. If Jones is far enough away, the sensation I experience is indistinguishable from that produced by a horse or cow. Like all examples from sense, this one limps—but it expresses well the essential fact. Universalization is a kind of indistinctness; is consequent on faulty perception; is possible only after abstraction.¹²

⁸ S.T. I. 12. 11c., 55. 2, 76. 5; De Ver. 10. 6; In III de An. lect. 8.

⁹ S.T. I. 85. 1, 86. 1; De Ver. 2. 5c. in fin., art. 6; De Ente et Ess. c. V in init.

¹⁰ S.T. 84. 7, 85. 1 ad 1, 2 ad 2; De Ver. 10. 4, 5; In II de An., lect. 12; In VIII Meta., lect. 1 med.

¹¹ De Ente et Ess. c. II.

¹² The example in the article is taken from S.T. I. 85. 3. For the

St. Thomas' example from sensation will serve to show also a difference between sensation and intellection. When Jones is far away I am capable of an imperfect union with him, recognizing him, let us say, as a body. As he comes closer my union becomes more perfect until at last it is union so complete that through my sensation, Jones is distinguishable from any other object. But in intellection this is not so. My union with the object may be more or less perfect but it will never attain that by which the object is distinguished from all other objects. Our concepts are always imperfect expressions of their objects; they are more or less universal, but one and all they are universal.¹³ And this necessary universality is not due to the nature of intellection as such, for it is not true of the ideas of God¹⁴ or His angels.¹⁵ It is a defect, peculiar to human intellection; as such its reason is to be found in the nature of man's mind, lowest in the scale of intellect; and in the nature of its proper object, lowest in the scale of being.

II Universality of Intellection

Why is it, then, that our knowledge is necessarily universal? Why is it that we never attain perfect union with the singular objects of our understanding? If we reverse our point of view and ask the question with the emphasis on the nature of bodies, I think we have the question of the principle of individuation as St. Thomas understood it. It is simply this: "What is it in the nature of a body that the human mind cannot grasp, but which, if grasped, would perfect our union with that body, giving us its very individuality?"

I think that it is this question whose solution St. Thomas regards as obvious. Matter is part of every body. To understand the body, the human mind must abstract from the matter. A particular relationship to matter is part of every corporeal form. To understand the form, we must abstract from this relationship. It is matter, therefore, that impedes perfect union, that necessitates abstraction. The result of this abstraction, experience shows, is universality. It is abstraction from matter or a particular relationship to matter, therefore, that causes universality, that causes loss of individuality. It is matter, then, that individuates a body; it is a particular relationship to matter that individuates a form. Briefly—in bodies the principle of individuation is matter.

It should be noted that there is no question here of efficient causality. Anything that is or can be is ipso facto singular. Ontologically, no principle of individuation is required to individualize a thing as though of its nature it had a tendency to universalize itself.¹⁶ Let us use St.

notion of universalization as indistinctness cf. *De Ente et Ess.* c. III. For the relationship of abstraction and universalization cf. e.g. S.T. I. 86. 1; De Ver. 2. 6; In II de An., lect. 12.

¹³ St. Thomas takes this as a dictum of experience and repeats it constantly, giving as explanation the reasons we have outlined. (cf. e.g. the citations to note 12 supra.)

¹⁴ S.T. I. 14. 11; I Sent., d. 36. 1. 1; Sum. c. Gent. I. 65; De Ver. 2. 5.

¹⁵ S.T. I. 57. 2; II Sent. d. 3. 3. 3; Sum. c. Gent. II. 100; De Ver. 8. 11.

¹⁶ It is true that St. Thomas often speaks as though the matter limited the form by a kind of efficient causality (e.g. S.T. I. 3. 2 ad 3). However a careful reading of *De Ente et Essentia*, especially

Thomas' own parallel. Our concept "animal" is intrinsically indifferent to verification in a man or brute. "Rationality" therefore "makes" an "animal" a "man". But to transfer this mental activity to the ontological order is nonsense. No existing animal is, by its whole soul or any real part of it, indifferent to being a man or a brute. It is one or the other. Moreover this man's animality and his rationality and his humanity are ontologically without any real distinction. St. Thomas adds that this also is true of his individuality. Matter "makes" a being individual. This is the way we express the fact that in failing to grasp matter we lose individuality. It must not be taken to mean that without this matter the form would be a universal. No, without this matter it would be a metaphysical impossibility just as Jones' animality without his rationality is not universal but impossible. With this matter, it is individualized not by the matter acting as an agent, but by its own intrinsic relationship to this matter which relationship is no more distinct from its specific essence than the specific essence is from the generic.¹⁷

III Terms Used

If we digress a bit here to discuss the meaning of the words that Thomas employs in connection with this problem, it will help towards a still more accurate determination of what his point is. First, "individuum". Unfortunately the word "individual" connotes among us a proper act of existence; it means what "supposit" ought to mean. If you remember that Thomas speaks of your hand, of the color of this paper, and of the human nature of Christ as "individua", it will be clear that our comprehension of the term is not his.¹⁸ To say that the first two examples are "individuals" in our sense of the term is contrary to common sense; to say this of the third is contrary to faith. Let us say then, not "individual", but "singular". Further, let us remember that we are not dealing with the order of existence but that of essence, of metaphysical possibility.¹⁹ We are not asking, "Why does this exist as a singular being?" (That is clearly not different from asking why it exists at all.) The question is "How is this singular being possible?"

chapter two towards the end and the whole of chapter three will show, I think, that this is a mannerism of speech not to be taken literally. Further, any literal interpretation would (1) contradict the Thomistic notion of matter as pure potency and (2) place the question of the principle of individuation in the order of existence where, as we hope to show in section three, it does not belong.

¹⁷ *De Ente et Ess.*, cc. II and III.

¹⁸ In several places St. Thomas defines "individuum" so that it seems to coincide with "suppositum." However, when he is more careful (e.g. III *Sent.*, d. 6, 1. 1. 4; *De Un. Verbi Incar.*, art. 2; *Quodlibet.* IX. 2), he makes the distinction and uses the examples we have noted. Read also the first questions of the Third Part of the *Summa* (esp. S.T. III. 4. 4) where the human nature of Christ is "individuated" (i.e. singular) but not an individual.

¹⁹ For St. Thomas to inquire into the mode of existence of a thing is to inquire whether it is substance or accident; and if substance, whether a whole or a part, whether a supposit or not. In any case its singularity is supposed. Perhaps it would help the student to appreciate the difference of the two questions to follow St. Thomas at work on this second and altogether different one. Cf. e.g. S.T. I. 29. 2, III. 17. 2; *De Spirit. Creat.*, art. 8 ad 3; *De Un. Verbi Incar.*, per totum; *Sum. c. Gent.*, IV. 43; *Quodlibet.* II. 4; *De Ente et Ess.*, c. VI in med., c. VII.

Next, "species". Now in the first place a species is a concept which we draw from sensible things. Dismissing the question of how often and how well we form them, and remaining in the ideal order, we say that a species is a mental union with all the positive perfections of a being.²⁰ Now, since our species are formed from sensible things, and since the perfections of sensible things (e.g. sensation, aptitude for local motion, etc.) import some relation to matter; our species which mirror those perfections import some relationship to matter, not necessarily this or that relationship to this or that matter, but some relationship.²¹ Remember, too, that the formation of species is an intellectual process and, consequently, union.

Now, if we ask the question, "Why, when we form a concept of species, do we not attain complete union with a singular object?" the answer is obvious. Complete union with a singular object would include every last truth concerning that object; no further determination would be possible. "Animal" (a genus) does not give complete union with anything because it can be further determined by the addition of "rational". Similarly, "man" (a species) does not give complete union with an object; because, though it cannot be further determined by the addition of positive perfections, it can be by the specification of its relationship to matter. The answer to our question then is: "Bodies which are the proper objects of our knowledge are creatures of positive perfection and of a determined relationship to matter, to relative non-being. When we form our most perfect concept, that of species, it does not include this relationship to matter, and is not, therefore, perfect union."²²

Reverse the point of view; ask the question with the emphasis on the object of our knowledge, remembering to keep within the order of essence, and it reads, "Whence the possibility of more than one distinct singular being within a single species?" The principle of individuation again. And again, in the light of Thomistic teaching on the nature of man's mind and its proper object, an obvious answer. "The species can be multiplied because it imports an indistinct relationship to matter, which relationship can be specified in the individual without adding any positive perfection and thus without changing the species." But consider the case of a being that is pure form (i.e. an angel). The possibility disappears. Conceive an angelic species, that is, form from a particular angel a concept which embraces all its positive perfections, and you are in complete union with that angel. No relationship to matter is implied in your concept. No further determination of it is possible. When we express this truth in reverse, it sounds odd; but that is only because we are using terms drawn from our experience of bodies to discuss creatures

²⁰ Species is used in several senses; in the text of the article I have confined it to what seems the only pertinent one. That the definition here given is consonant with the mind of St. Thomas may be seen, I think, from *De Ente et Ess.* and from *De Spirit. Creat.*, art. 8c. med.; *De Un. Verbi Incar.*, art. 1; *In VII Meta.*, lect. 3 med.

²¹ S.T. I. 65. 4, 85. 1 ad 2; *De Ver.* 10. 5; *De Ente et Ess.*, c. II; *In VII Meta.*, lect. 10 med.

²² See the citations in the preceding note and also *Quodlibet.* II. 4 ad 1.

to whom the terms are only analogically applicable.²³ The reality behind the words is clear enough. "Each angel differs from all others specifically, that is by a positively diverse nature. No two angels are of the same species."²⁴

IV Summary

The best way to close this study, I think, is to re-state in the ontological order what we have followed in the order of invention.

Every body is a distinct idea in God. This distinction sometimes is due to a difference in absolute nature, a difference of positive perfection, as a horse differs from a tree. Such a difference is intelligible to man; we call it a

²³ I think it is clear that the terms we use in connection with this problem are primarily applicable only to sensible things. When we transfer the question to angels it is sometimes said that in them the principle of individuation is form. St. Thomas himself often uses this expression (e.g. *S.T.* I. 3. 3). I think it would lead to less confusion to say that there is no principle of individuation in angels; and consequently, although they are "individuals" (i.e. supposita) and "singular" (i.e. each is an "unum per se"), they are not "individuated" at all; for the meaning of "individuated" is "rendered possible as a distinct singular being along with others of the same species." cf. *II Sent.*, d. 3, 1. 2; *De Spirit. Creat.*, art. 8 ad 4.

²⁴ *S.T.* I. 50. 4; *II Sent.*, d. 3, 1. 4; *Sum. c. Gent.*, II, 93; *De Spirit. Creat.*, art. 8; *De Ente et Ess.*, c. V.

²⁵ The incomplete character of this paper will not escape anyone of even a passing acquaintance with St. Thomas; for he holds as the principle of individuation, not merely "materia" but "materia quantitate signata" (cf. *In Boethii De Trinitate*, 4. 2c.). Besides the necessity of narrowing the field to the limits of a magazine article, there

are other reasons, native to the question treated and to my purpose in treating it, that lead me to omit a discussion on the meaning of "quantitate signata": (1) This paper is an attempt to follow the consistent teaching of St. Thomas. Now, he always insisted that matter is the principle of individuation. But the expressions he uses to qualify "materia" vary and so does his explanation of them. Whether his ideas on the subject evolved with the maturing of his thought or whether he made a radical change of mind, and lastly, whether he came to any final teaching on the subject are questions irrelevant to the subject of this article as it stands. (2) It seems to me absolutely necessary for a consistent Thomism to hold that matter is the principle of individuation. If it is asked how can pure potency in any case be the root of determination, St. Thomas' answer is whatever is meant by "quantitate signata." This is the answer to an objection and not an essential part of the original question. That matter is the principle of individuation we must understand if we are to follow St. Thomas. That this matter is "quantitate signata" is something added.

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The New Ethics

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THAT the ethical principles which govern the actions of a large number of people in this country have undergone a change during the past two generations, is a fact that can scarcely be gainsaid. Underlying whatever "new modes of living" are appearing in the various phases of life, are new norms of action, new codes of values.

This transition has recently been characterized as a change from "Formalism to Teleology in determining the criterion of right and wrong."¹ It is a "... shift from the notion of right for right's sake to right as a means to an end; from a code of rules to be obeyed to a goal to be achieved..."²

The "Formalism," which is gradually being abandoned is "... the code of virtues and duties ... based upon God's will, expressed either through revelation, or through the 'laws of nature,' or through both..."³ The "Teleology," towards which the tendency now lies, can be summed up

as "total self-realization." As a matter of fact

... it goes by many names, most of them meaning practically the same thing, so far as any meaning can be attached to it. It is spoken of as self-realization; the perfection of human personality; idealistic perfectionism; eudemonism; energism; total self-development; to be oneself at one's best; to become all one is capable of becoming; the ultimate unfoldment of all one's capacities and powers in a progressively rational unity....⁴

In this shift, then, from "Formalism" to "Teleology" ... the basis of moral obligation has been radically altered. It is no longer founded upon God's will, whether expressed in revelation or in the "laws of nature;" nor is it usually founded in metaphysics. Rather, the imperative or teleological obligation tends to be based upon the authority of our fundamental and permanent desires over our merely passing and superficial wants; these fundamental desires being regarded as expressions of our fundamental capacities and powers, whose total realization is our highest good. Or, as it is sometimes put, obligation means the authority of the complete self over the partial self.⁵

That there should be a veering away from the traditional principles of action is understandable when the various factors that have long been at work (especially against the postulates) are considered. Nor is it hard to see why such a shift should be hailed, in certain quarters, as an

¹ Jay William Hudson, "Recent Shifts in Ethical Theory and Practice," *The Philosophical Review*, Vol. XLIX, 2, (March 1940) p. 106. See also Mary L. Coolidge, "Today's Philosophy and Tomorrow's," *The Journal of Philosophy*, Vol. XXXVII, 23, (Nov. 7, 1940) p. 620.

² Hudson, loc. cit. p. 108.

³ Ibid. p. 107.

⁴ Ibid. p. 109.

⁵ Ibid. p. 110.

inevitable step along the road of progress in ethics—in view of the enviable advances which apparently have already been made in the natural and social sciences. But what is surprising is to find professional ethicists who still so misunderstand the traditional position that they can reject it along with Kantian formalism, accusing it of dividing and opposing certain basic concepts whose interrelation and dependence are vital to any ethic. To be specific: it is stated that “. . . the shift is from the notion of right for right's sake to right as a means to an end . . .” Or, to put it another way, the “formalist” (anyone taking cognizance of God, laws of nature, etc.) used to act in a certain manner simply and solely because the act was right and good in itself, with no reference to an ulterior purpose or end. While now the “teleologist” (who recognizes only “science's fundamental assumptions”) performs his acts because, being aware of their relation to a goal, he knows that they will lead him thereto. In a word, “Formalist” ethics taught that an act could be right in itself without any relation to or dependence upon purpose or end.

That this is not the position of the perennial ethics is what this paper, by a simple review⁶—nothing more—of the concepts of *good* and *end* and *their implications*, essays to point out.

Point of Departure

We start with an undeniable fact: namely, that wherever men are encountered we find them attributing a qualification to their *actions* which corresponds to our notion of good and evil. All men,⁷ whether in civilized or uncivilized regions, have the idea that some acts are good and hence worthy of praise and reward, that some are bad and consequently deserving of blame and punishment. What these various acts may be in the concrete, is not of prime importance here. While vague in its applications—even to the point, seemingly, of contradiction at times, for among one people the qualification of good may be applied to what another calls evil—nevertheless the fact is clear and precise in itself. Men call some acts good and others bad. For the good, in their estimation, reward may be expected; for the bad, blame. And so, under the incoherence of varying moral appreciations, we find, as one of the constants revealing the fundamental unity of the human race, this general character of the value of human acts.

Moreover, a second common characteristic is discernible among all men; this general qualification of good and evil, which, as we have just seen, is assigned by men to their actions, is also attributed by them to *things*. Men say that this statue, this micrometer, this food is good or bad as the case may be. Evidently this goodness or badness of things is different from that of actions. But what is the difference?

⁶ Since the matter of this paper is that commonly contained in numerous treatises on the subject, no extensive references will be given. A few pertinent passages in St. Thomas will be indicated. In the development of some points I have followed Jacques Leclercq, *Leçons de Droit Naturel*, Vol. I, (Namur, Maison D'Éditions Ad. Wesmael-Charlier, 1933).

⁷ Even those who have reasoned themselves into a position of denying any distinction between good and evil, give the lie to this “conviction” by the actions of their daily lives.

Is this analogy, arising from the application of the same qualification to two different orders of reality a purely verbal one or is it real? That it is real will be evident when we have arrived at a more precise knowledge of the good.

The Good in Things

First, then, let us try to isolate the basic meaning of good in general. In the realm of things (as opposed to acts) what do we mean when we speak of a certain object as “good”? Upon examination we find that it is called good only in so far as it conforms to a determined ideal type of the object in someone's mind. This is a good tree because it conforms to the concept of tree that I have in my mind. On the other hand, if I come across some unknown object about which I have not the least concept, I will not say that it is either good or bad. I will either find it a curious sort of thing, or I will say nothing at all about it.

We can say, then, that a being is good in our estimation *in the measure it realizes its type*. Of course, as it should be added, all beings realize their type to a certain degree. A lion that in no way would realize the type “lion” would be no lion at all. He would be some other being, and to some degree would realize the type of this other being. Hence, since the good of each being lies in the realization of its type and every being realizes its type to a certain degree, it follows that every being is, in this same measure, good.⁸ However, from the fact that every being is good at the moment it exists as just explained, it does not follow that mere existence gives us the complete good. For, as already observed, good implies the realization of an end. Hence, there is contained in the notion of good the idea of movement, the idea of a tendency to realize something. In other words, the good admits of a certain nuance.⁹ The closer a being comes to a perfect realization of its type, the greater is the good which may be said to be embodied in the being.

Why is it true that a being is good in the measure it realizes its type? Because the ideal type appears to us as that which the being is destined to realize. This explains why, in the common opinion of men, good is that which things are destined to be, that towards which they should tend. If this is the case, the essential relation between good and end is evident. The good is the goal to be achieved, the end to be attained. This horse is good, in our estimation in the measure in which it realizes the ideal type of horse. This ideal type, then, appears as being, in a certain sense, its *raison d'être*, which could not be true if horses did not exist *for the purpose* of realizing this type. The good is, therefore, in our estimation, synonymous with the end.

⁸ “Omne enim ens, in quantum est ens, est in actu, et quodammodo perfectum: quia omnis actus perfectio quaedam est: perfectum vero habet rationem appetibilis, et boni . . . unde sequitur, omne ens, in quantum huiusmodi, bonum esse.” S.T. I. 5. 3c. Cf. De Ver. 21. 2c.

⁹ “Bonum et ens sunt idem secundum rem, sed bonum dicit rationem appetibilis quam non dicit ens.” S.T. I. 5. 1c.

“Secundum primum esse, quod est substantiale, dicitur aliquid ens simpliciter et bonum secundum quid id est in quantum est ens: secundum vero ultimum actum dicitur aliquid ens secundum quid et bonum simpliciter.” S.T. I. 5. ad 1.

But does this type of which we have been speaking and to which we said things must somehow conform if they are to be good, really exist outside of us in nature independently of our minds? Before this question can be answered, it will be necessary to consider further the notion of end.

Can it be said that end as such is actually in things? Things exist. At each instant they are what they are. States through which they have passed are no more. Those through which they will pass do not yet exist. End, then, as something which things pursue, cannot be in things. Inasmuch as it serves to judge the value of a thing—as we said it must—it is something exterior to it. Since this is so, there is only one source from which end could come: from some intelligence. To speak of tendency to an end or finality in things is to affirm the intervention of an intellect. There is and can be finality in things only if some intelligence puts it there.

Objective Finality

Good, as we said, is being in as much as it realizes its end. Consequently, if there is no end without intelligence, neither is there good without intelligence. Here we are face to face with the crux of the question: is good subjective or objective? Or to put it another way: is there finality in things independently of ourselves?

In practical life, all of us do admit such a finality independently of our own minds. In objects which are produced by our fellow men, we immediately recognize the objective finality (apart from any utility they may have for us) given them by their authors. As soon as we see a watch we affirm without hesitation that the purpose of the watch, its end, is to tell time—for we know that such was the end for which it was made. Confronted with some unknown gadget we ask ourselves what its purpose may be, for what it may have been intended by its maker. In our daily life, therefore, we admit that objects have an end independently of ourselves. This end is that which the author of an object intended.

What of nature itself, can such a finality be asserted of it? Scientific research, though it may ultimately issue in utility, must, it seems, primarily seek the nature, the intrinsic finality of the objects under observation. The scientist in studying a chemical, a plant, or an animal, establishes an ensemble of characteristics which determine the type of object studied. Once this type is determined and according to whether or not the object under consideration more or less closely approximates the type, notions are formed of the chemical's purity or impurity, of the plant's goodness or badness, of the animal's health or sickness. But actually what is the value of all these notions? Can it be said that in reality these beings in no way exist *for the purpose* of realizing these various types of perfection? Are they in no way destined to attain what so obviously seems to be their various ends? There are two answers: either these characteristics constantly observable are but the effect of pure chance, and the type or end which we have conceived as their proper perfection is nothing but a figment of our own minds; or they are the result of an intelligence at work and the finality discernible in them is

that intended by this intelligence.

This supposes that this intelligence is the cause, not only of the varying characteristics found in things, but the cause of their very *existence*; the cause, not only of the fact that things are this or that, but of the fact that they *are*; the cause, in other words, of the fact that they are something—that they exist! The question of whether or not there is in the world objective good, or if there is objective finality in things, comes to knowing whether or not there exists an intelligent creator, one who is the cause of the fact that things exist and who, following a thought, an end, in the act of creation, impressed this thought on the universe in modeling it and orientating it according to this intention. Only if such an explanation of the world is accepted does the good have a reality which does not depend upon us; only thus can the good have a *definite* and *certain* meaning.

The Good in Our Acts

We have said that every being, by the very fact that it exists, has its own proper end. Its end is its reason for existing; it will be that which will give to creatures their form. Since this is the fundamental law of all beings and there is no being which does not follow it, man also follows it. Man tends necessarily, as do all beings, to his end—that is to say, to his good.¹⁰ His good is to realize his type, his nature. Hence, those acts are called good which further the realization of this end. The perfect good for him would be to realize his nature completely, to realize the fullness of his being. To this man tends irresistibly. It is a fundamental tendency.

But there is also another tendency in man equally fundamental and irresistible: it is to be happy! And what is happiness? We call a man happy when he has all that he desires, when he has achieved all his goals and purposes.¹¹ Happiness, then, is the state of a man who has attained his end. But, as we have seen, the end is synonymous with the good. Hence, happiness is the state of a man who possesses his good. It is repose in the good possessed.

How can it be known which acts are good, that is, which acts contribute to the realization of man's end. As in the case of things (as opposed to acts) their end was known from an observation of them, so also in man's case his end can be known from a scrutiny of his nature.

Obviously, the correct interpretation of human nature is the foundation upon which the whole moral structure will rest. What is considered the good for man will vary according to the different interpretations given to his nature and the diverse ends set up for it; since the end is the criterion by which the good must be judged. All systems of morality since time immemorial have had as their purpose the determination of what is the good of man. But because of the great divergencies of opinion as to the meaning of man, what his nature is and what his end is,

¹⁰ "Bonum est quod omnia appetunt." S.T. I. 5. 1c.

Of course moral good and ontological good do not differ in themselves. Moral good is simply the ontological good of man in as much as it is the end of his free activity.

¹¹ "Beatitudo, cum sit perfectum et sufficiens bonum, omne malum excludit, et omne desiderium implet." S.T. I-II. 5. 3c.

there has been nothing like agreement as to what constitutes his good.

What is man? To state the obvious, he is a living being differing from the inanimate by his property of self-movement. But man is a knowing being. Like all other animals he has that property of sense knowledge by which, after certain physical phenomena have acted upon him, he becomes aware of sensible objects. Man, however, possesses a far more marvelous and mysterious means of knowing—that of intellectual knowledge. In this he is radically distinguished from all other animals. The sense knowledge of animals is that of the phenomenon of an object, its sounds, its colors, its tastes. But the intellectual knowledge of man is that of the very being of the object. The intellect of man is the faculty of being, just as sight is the faculty of color. Knowing things man recognizes in them one common characteristic: that of being. All are beings. The intellect knows objects in as much as they are the embodiment of ideas, and ideas are opposed to sensible data both by their immateriality and their universality.

There is, then, in man a faculty which has for its object the existence, the being—not the external, sensible appearances—of things. This faculty is capable of embracing *all things* inasmuch as they exist and are something.¹² But because man has this faculty, he is continually unsatisfied. Having a capacity for universal being, he finds round about him only particular beings which cannot assuage this thirst of his spirit. Hence, man is perpetually searching (whether he is conscious of it or not) for that one object whose perfection corresponds to his absolute need, that object which will be *Being itself*, and which will consequently be *the Good* whose possession will assure him of repose in happiness. The Good of man can be only his End and that can be only his Intelligent Creator.

Hence, from a consideration of man's nature, of his faculties and their operation, we discern what the End of man is.¹³ Man's good, therefore, lies in the realization of this End. Hence, those acts of his are good, in the only true meaning the word can have, which lead man to the attainment of this End.

The criterion, then, according to which man's acts are good or evil is an *objective* one, namely, the End of man which exists outside of him. And this fact is known, in turn, from a study of man's objective nature. *Man's nature*, therefore, can rightly be said to be the objective norm of human actions.

Moral Necessity

If man is free in the choice of his actions and, nevertheless, tends necessarily to good and happiness, in what does the moral problem consist? If, in spite of this basic neces-

sity to seek the good man still remains master of his actions in such a way that they can truly be said to be worthy of praise or blame, what is obligation?

Man, being an animal endowed with reason, knows that he is destined for an end; and he also knows that his acts have a relation to that end and that, as far as they are human acts consequent upon the use of his free will,¹⁴ he is accountable for this relation. It is plain to him that he must tend towards happiness, the good in general. But about the particular goods which lead to the attainment of this happiness, he is not so sure. Ask a man if he wants to be happy. The answer is a spontaneous: "Yes." Ask him in what this happiness consists. The answer will not be so readily forthcoming. If he answers at all, it will probably be by indicating one or another good which appears to him at the moment as of the greatest value. Hence, while man tends necessarily towards the total good of his nature—of which tendency he has a clear knowledge—he is confronted with an ensemble of particular goods the value of which he recognizes less clearly as means of realizing his total good.

From among these particular goods, then, man must choose. But what will his choice be? When man, in the presence of particular goods which attract all his senses, is led to reflect (his reason aided or unaided by law or precept), he realizes that among all these goods there are some which will be conducive to his general good, while others will detract from it. Wishing the total good of his nature, man feels constrained to wish those partial goods which lead thereunto. This, then, is obligation. It is the necessity of acting in a certain manner because of the relation of these acts as necessary to attain a necessary end.¹⁵ Man, wishing his general good, discerns a contradiction in himself, a disorder, if he does not wish those particular goods which lead to this end.

Obligation is a necessity, but a moral one. This marks the difference between the necessity of obligation and that of the natural tendency towards our total good. In common with the animals, as we have already mentioned, man tends necessarily towards his total good, his happiness. This tendency is inherent in his nature. On the other hand, he is not blindly led by instinct like other animals in regard to particular acts; he reasons about them, coordinating and subordinating them. Hence, man is under obligation only because he enjoys freedom in the choice

¹² "Cognoscentia a non cognoscentibus in hoc distinguuntur, quia non cognoscentia nihil habent, nisi formam suam tantum, sed cognoscentis natum est habere formam etiam rei alterius; nam species cogniti est in cognoscente. Unde manifestum est, quod natura rei non cognoscentis est magis coarctata et limitata. Natura autem rerum cognoscentium habet maiorem amplitudinem et extensionem; propter quod anima est quodammodo omnia." S.T. I. 14. 1c.

¹³ The existence of such a Being is, of course, one of the postulates of Ethics; the proof thereof is the province of Theodicy.

¹⁴ "Actionum, quae ab homine aguntur, illae solae proprie dicuntur humanae, quae sunt propriae hominis, in quantum est homo: differt autem homo ab irrationalibus creaturis in hoc, quod est suorum actuum dominus; unde illae solae actiones vocantur propriae humanae, quarum homo est dominus; est autem homo dominus suorum actuum per rationem, et voluntatem; unde et liberum arbitrium esse dicitur facultas voluntatis et rationis; illae ergo actiones proprie humanae dicuntur, quae ex voluntate deliberata procedunt: si quae autem aliae actiones homini convenient, possunt dici quidem hominis actiones, sed non proprie humanae, cum non sint hominis, in quantum est homo. Manifestum est autem, quod omnes actiones, quae procedunt ab aliqua potentia, causantur ab ea secundum rationem sui objecti; objectum autem voluntatis est finis et bonum: unde oportet, quod omnes actiones humanae propter finem sint." S.T. I-II. 1. 1c.

¹⁵ Obviously this is not a complete definition of obligation; but it is the metaphysical foundation of obligation and of the *lex aeterna*.

of his acts.¹⁶

The question naturally follows: how should man rationally order his acts? His acts cannot be directed without a knowledge of the end towards which they should be orientated. Hence, it is incumbent upon him to ascertain what precisely his end is. This knowledge is usually the result of reasoning processes and/or religious convictions, with the latter—so it appears at least—playing the predominant rôle. In fact, in practical life it would seem that only knowledge which derives from religious beliefs carries with it enough conviction to assure the consistent functioning of obligation.

To say, then, that the basis of obligation is “. . . the authority of our fundamental and permanent desires over our merely passing and superficial wants . . . whose realization is our highest good . . .”¹⁷ may perhaps be true, providing this good is actually the Good, the End existing outside of man for which man is destined, and to which—as a consequence—these desires lead and in which they find their fulfillment. But, in the light of our above inquiry, it does seem a bit naive to speak of our “highest good” without some knowledge of our end and to attempt in the same breath to impose an obligation—in the *strict* sense of the word—to attain it!

Perfection

Likewise in regard to “self-realization” or perfection: without any definite knowledge of the end toward which we should tend, how can there be any progress, any increase in good? For progress must be made if beings are to approximate perfection. What is perfection? Whence do we derive our concept of it? We have said that the good of a being is the realization of its type or the attainment of its end. But from observation of things about us, we perceive that no being ever completely realizes its ideal type. All things constantly change and these changes continually modify things. The result of this is that there is ever being introduced either a new good which improves beings or a new evil which corrupts them. Thus, viewing beings according to the degree in which they have realized their end, we derive the notion of the better, or of *perfection*; and, considering beings as capable of this progress, we conceive the notion of their possibilities or their potencies.

Hence, perfection is the actuation of all the potencies of a being.¹⁸ It is the realization of that which completes the

nature of a thing. Since this is the case, the problem of perfection for each individual consists in ascertaining what his ultimate end is and what the potencies are which will be conducive to this unique end. Undoubtedly this is “total self-realization” if thereby is implied progress towards a definite goal about which there is had certain knowledge. Without these, however, it would seem that there is little chance for progress in any true sense. What we would have rather may perhaps be best expressed by calling it simply “energism.”

Such then, in very sketchy manner, is the intimate relation that exists between good and end. Any talk of right for right's sake is pure nonsense. The good ever implies a relation to some end. In the very existence of a being that is good or of a being whose acts are good, is contained the necessity of an Intelligent Creator who gave them both existence and end. Without such a Being, good and end in their *ultimate* analysis lose all meaning; and with them go obligation and perfection.

The Bibliography

Eight years ago, in January 1933, THE MODERN SCHOOLMAN published a bibliography compiled by the late Leo V. Keeler, S. J. Since that time the remarkable quality of the work done in Christian philosophy has made it increasingly evident that a revision of the bibliography would be necessary. The original list proved extremely useful for teachers, students and librarians in American colleges and seminaries. It is hoped that the revised work containing over 375 titles of which not more than half were originally included, will prove equally helpful.

The bibliography is designed primarily to provide instructors and students with a list of available texts and supplementary reading in accord with the generally accepted divisions of Scholastic Philosophy. As will be immediately apparent, the list is in no sense intended to be exhaustive and is directed to the undergraduate level of studies.

A tangential but nonetheless real purpose to be served by the bibliography is to point out the grave deficiencies in several fields. Some of the best books, too universal for narrow bracketing, have been repeated under several heads, showing the impracticability of our customary categorizing.

The compilers of this bibliography have from the beginning been aware of the difficulties presented by subjective selection. In most of the sections they were assisted by experienced professors in an effort to make the final product as objective as possible. There will doubtless be unfortunate omissions and perhaps inaccurate classifications, but it is hoped that the merits of the bibliography will compensate for any deficiencies.

We hope that this revised bibliography may conduce to the advancement of Scholastic Philosophy, to a better knowledge of St. Thomas in particular, and to a better appreciation of the heritage which is the *Perennial Philosophy*.

¹⁶ “Illa ergo quae rationem habent, seipsa movent ad finem; quia habent dominium suorum actuum per liberum arbitrium, quod est facultas voluntatis et rationis; illa vero, quae ratione carent, tendunt in finem propter naturalem inclinationem, quasi ab alio mota, non tamen a seipsis: cum non cognoscant rationem finis: et ideo nihil in finem ordinare possunt, sed solum in finem ab alio ordinantur: nam tota irrationalis natura comparatur ad Deum, sicut instrumentum ad agens principale. Et ideo proprium est naturae rationalis, ut tendat in finem, quasi se agens, vel ducens ad finem; naturae vero irrationalis, quasi ab alio acta vel ducta; sive in finem apprehensum, sicut bruta animalia; sive in finem non apprehensum, sicut ea, quae omnino cognitione carent.” S.T. I-II. 1. 2c.

¹⁷ Hudson, loc. cit. p. 110.

¹⁸ “Secundum hoc enim dicitur aliquid esse perfectum, secundum quod est actu; nam perfectum dicitur, cui nihil deest secundum modum suae perfectionis.” S.T. I. 4. 1c.

Bibliography for Scholastic Philosophy

THE MODERN SCHOOLMAN MARCH 1941

This bibliography has been compiled by the staff members of THE MODERN SCHOOLMAN with the help and direction of the Philosophy faculty of St. Louis University. The selections have been made with a view primarily to aiding instructors and students of Scholastic Philosophy in Catholic colleges and universities, in choosing text-books and supplementary reading. It is also designed to act as a directive norm for librarians in acquiring representative books for a section in Scholastic Philosophy. It is hoped too that those interested in Scholastic Philosophy, with no opportunity for formal study, may find it useful. For this purpose a ten book introduction has been prefixed. Although by no means elementary, it should prepare students for an intelligent reading of St. Thomas.

A 10-BOOK INTRODUCTION TO THOMISTIC PHILOSOPHY

- Maritain J., *Introduction to Philosophy*
 Gilson E., *The Spirit of Medieval Philosophy*
 Gilson E., *The Unity of Philosophical Experience*
 Phillips R., *Modern Thomistic Philosophy*, 2 vols.
 Farrell W., O. P., *Companion to the Summa*, I, II, III
 Gilson E., *The Philosophy of St. Thomas*
 Rousselot P., S. J., *The Intellectualism of St. Thomas*
 Maritain J., *A Preface to Metaphysics*
 Maritain J., *The Degrees of Knowledge*
 Thomas Aquinas, *Summa contra Gentiles* (trans.)

INTRODUCTION TO PHILOSOPHY

- Maritain J., *Intro. to Phil.* (trans. E. Watkin), 272, S. & W. 1939
 De Raeymaeker L., *Intro. à la Phil.*, vii-269, Institut. Sup. de Phil., Louvain 1938
 Sertillanges A., O. P., *Found. of Thom. Phil.*, 254, Herder 1931
 Brunner A., S. J., *Fund. Quests. of Phil.* (trans. S. Raemers), 350, Herder 1937
 Bremond A., S. J., *Phil. in the Making*, 223, Benziger 1939
 De Wulf M., *Schol. Old & New* (trans. P. Coffey), xvi-327, Benziger 1907
 Garrigou-Lagrange R., O. P., "La puiss. d'assimil. du thomisme," *Revue Thomiste* 1939
 Bandas R., *Contemp. Phil. & Thom. Prins.*, viii-468, Bruce 1932
 Gilson E., *Reason & Rev. in Mid. Ages*, xv-372, Herder 1925

Non-Scholastic

- Joad C., *Return to Phil.*, Faber 1935
 Hocking W., *Types of Phil.*, xv-462, Scribner 1929
 Brightman E., *Intro. to Phil.*, 393, Holt, N. Y. 1925
 Blanshard B., *The Nat. of Thought*, 2 vols., Macm. 1940
 Montague W., *The Ways of Things*, xviii-712, Prentice-Hall 1940
 Robinson D., *Intro. to Living Phil.*, xiv-381, Crowell 1932
 Hutchins R., *Higher Learning in Amer.*, 119, Yale U. 1936

COMPLETE COURSES

- Phillips R., *Mod. Thom. Phil.*, 2 vols., Burns, Oates 1934, 1939
 Mercier D., *Manual of Mod. Schol. Phil.*, 2 vols., Kegan Paul, London 1926
 Bittle C., O. M. Cap., *Schol. Phil.*, (course), Bruce 1935-41
 Baschab C., *Man. of Neo-Schol. Phil.*, xviii-452, Herder 1923

LATIN

- Boyer C., S. J., *Cursus Phil.*, 2 vols., Desclée, Paris 1935
 Remer V., S. J., *Summa Prael. Phil. Schol.*, 6 fascic., Greg. U., Romae 1936
 Filion E., *Elem. Phil. Thom.*: I, 550, Beauchemin, Montreal 1937
 Gredt J., O. S. B., *Elem. Phil. Arist.-Thom.*, 2 vols., Herder 2 ed. 1929
 Hugon E., O. P., *Cursus Phil. Thom.*, 6 vols., Lethielleux, Paris 1907
 Calcagno F., *Phil. Schol. sec. Rationem S. Thom.*: I, 467, d'Auria, Napoli 1937
 Donat J., S. J., *Summa Phil. Christianae*, Rauch, Innsbruck, nov. ed., 1935

LOGIC

- (St. Thomas: in *Periherm. Arist.*; in *Anal. Post. Arist.*)
 Maritain J., *Intro. to Logic* (trans.), xii-300, S. & W. 1937
 Glenn P., *Dialectics*, xx-187, Herder, 4 ed. 1933

- Bittle C., O. M. Cap., *Science of Correct Thinking*, x-364, Bruce 1935
 Joyce G., S. J., *Prins. of Logic*, xx-431, Longm., 3 ed. 1926
 Riedl J., *Exercises in Logic*, 48, Marq. U. Press, rev. ed. 1936
 Crumley T., *Logic Deduc. & Induc.*, 442, Macm., 2 ed. 1934
 McLaughlin J., S. J., *Manual of Logic*, xvii-165, Marq. U. Press, rev. ed. 1938
 Pesch T., S. J., *Institutiones Log. et Ontol.*, Part I, *Logica*, xxii-683, Herder 1914
 Fröbes J., S. J., *Log. Formalis*, xvi-417, Greg. U., Romae 1940
 Jolivet R., *Traité de Phil. I. Logique, Cosmologie*, 455, Vitte, Lyons 1939

Non-Scholastic

- Joseph H., *Intro. to Logic*, xii-608, Clar., Oxford, 2 ed. rev. 1916
 Stebbing L., *Mod. Intro. to Logic*, xx-525, Methuen, London, 2 ed. rev. 1933
 Chapman-Henle, *Funds. of Logic*, xiii-384, Scribner 1933
 Keynes J., *Studies in Form. Logic*, 584, Macm., 4 ed. 1928
 Holmes R., *Rhyme of Reason*, 486, Century 1940
 Johnson W., *Logic*, 3 vols., Macm. 1924
 Jevons W., *Elem. Lessons in Logic*, 340, Macm. 28th repr. 1923
 Bradley F. H., *Prin. of Logic*, 2 vols. Oxford U. Press, 2 ed. rev. 1928
 Russell B., *Intro. to Mathematical Phil.*, 208, Macm. 2 ed. 1920

EPISTEMOLOGY

St. Thomas: (cf. Section on Metaphysics)

TEXT BOOKS

- Phillips R., *Mod. Thom. Phil.*, Vol. II, Burns, Oates 1934
 Glenn P., *Criterionology*, xi-261, Herder 1933
 Barron J., *Elem. of Epist.*, xix-225, Macm. 1931
 Bittle C., O. M. Cap., *Reality & the Mind*, x-390, Bruce 1936
 Geny P., S. J., *Critica*, xix-415, Greg. U., Romae, ed. Nov. 1927
 Naber A., S. J., *Critica* (ad usum priv.), 412, Greg. U. 1932
 Esser G., S. V. D., *Epistemologia*, xv-243, St. Mary's Press, Techny, Ill. 1934
 De Vries J., S. J., *Critica*, xiii-176, Herder 1937

SUPPLEMENTARY READING

- Walker L., S. J., *Theories of Knowl.*, xxxix-696, Longm. 1910
 Maritain J., *Degrees of Knowl.* (trans.), xviii-475, Scribner 1938
 Coffey P., *Epistemology*, 2 vols., Smith, N. Y., reprinted 1938
 Noel L., *Le Réalisme Immédiat*, vii-299, Inst. Sup. de Phil., Louvain 1938
 Roland-Gosselin M., O. P., *Essai d'une Etude Critique de la Connaissance*, 165, Vrin, Paris 1932
 Gilson E., *Réalisme Thomiste et Critique de la Connaissance*, 242, Vrin, Paris 1939
 Jolivet R., *Le Thomisme et la Critique de la Connaissance*, 147, Desclée, Paris 1933
 Picard G., S. J., "Le Prob. Crit. Fondamental," 95, *Arch. de Phil.* I 1923; "Reflexions sur le Prob. Crit.," 78, *Arch. de Phil.* XIII 1937
 De Tonquédec J., S. J., *La Crit. de la Connaissance*, xxx-565, Beauchesne 1929
 Söhngen G., *Sein und Gegenstand*, xix-334, Aschendorff, Münster 1930
 Geyser J., *Auf Dem Kampffelde Der Logik*, ix-228, Herder 1926
 Nink C., S. J., *Grundlegung und Erkenntnistheorie*, xii-292, Carolus-Druckerei, Frankfurt 1930

METAPHYSICS

(St. Thomas: *S. T. I.; Sum. c. Gent.; In Arist. Metaph.; De Ente et Essentia*)

TEXT BOOKS

- Arnou R., S. J., *Meta. Generalis*, 219, Greg. U., Romae 1939
De Raeymaeker L., *Meta. Gen.*, 2 vols., Warny, Louvain 1931
Phillips R., *Mod. Thom. Phil.*, Vol. II, Burns, Oates 1935
McCormick J., S. J., *Sch. Meta.*, 253, Loyola U., Chi. 1928
Coffey P., *Ontology*, xii-439, Smith, N. Y., reprint 1938
Descogs P., S. J., *Institutiones Meta.*, 640, Beauchesne 1925
Remer V., S. J., *Ontologia*, Greg. U., Romae 1936

SUPPLEMENTARY READING

- Maritain J., *Preface to Meta.*, 152, S. & W. 1939
Van Roo W., S. J., "Act & Potency," *Mod. School.*, Nov. 1940
Institute of Medieval Studies (Toronto), *On Being & Essence* (trans. of *De Ente et Ess.*), S. & W.
Farrell W., O. P., *Companion to Summa*, Vol. I, S. & W. 1941
Osgniach A., *Analysis of Objects*, xvii-302, Wagner, N. Y. 1938
Hawkins D., *Causality & Implication*, 122, S. & W. 1937
Phelan G., "Quod Verum Sequitur Esse Rerum," *Medieval Studies* 1939: 11-22
Jolivet R., *Notion de Subst.*, 338, Beauchesne 1929
Maréchal J., S. J., *Point de Depart de la Métaph.*, 5 fascic., Felix Alcan, Paris 1922
Roland-Gosselin D., O. P., *Le "Ente Et Essentia" de S. Th.*, xxx-220 La Saulchoir, Kain, Belgium 1926
De Backer St., S. J., *Disputationes Meta.*, 3 Libelli, Beauchesne, Paris 1919 sq.
Penido M., *Le Rôle de l'Anal. du Theologie Dog.*, Bibliothèque Thomiste XV, Paris 1931
Marc A., S. J., "L'Idée de l'Etre," *Arch. de Phil.* X 1933
Van Leeuwen A., "L'Analogie de l'Etre," *Rev. Neo-Sch.* 1932
Van Steenberghe F., "La Comp. Const. de l'Etre Fini," *Rev. Neo-Sch.* 1938, 489-518
Webert J., O. P., *Essai de Métaph. Thom.*, Paris 1928
Forest A., *La Struct. Métaph. du Concert*, Vrin, Paris 1931
Descogs P., S. J., "Thomisme et Suarezisme," *Arch. de Phil.* LV 1926

Non-Scholastic

- James W., *Pragmatism*, 322, Longm. 1907
James W., *Pluralistic Universe*, 400, Longm. 1909
Hoernle R., *Studies in Contemp. Meta.*, 314 Harcourt
Taylor A. E., *Elem. of Metaph.*, xvi-419, Macm. 1904
Whitehead A., *Process & Reality*, xii-547, Macm. 1929
Whitehead A., *Nature & Life*, 46, Chicago U. 1934
Stace W., *Nature of the World*, vi-262, Princeton 1940

COSMOLOGY

(St. Thomas: *In Arist. Metaph.; In Arist. Phys.*)

TEXT BOOKS

- Hoenen P., S. J., *Cosmol.*, viii-535, Greg. U., Romae, 2 ed. 1936
McWilliams J., S. J., *Cosmol.*, x-243, Macm., 2 rev. ed. 1938
Glenn P., *Cosmology*, x-337, Herder 1939
Esser G., S. V. D., *Cosmologia*, xix-357, St. Mary's, Techny, Ill. 1939
O'Neill J., *Cosmology*, xi-308, Longm. 1923
Jolivet R., *Traité de Phil. I. Logique, Cosmologie*, 455, Vitte, Lyons 1939

SUPPLEMENTARY READING

- Descogs P., S. J., *Essai Critique sur l'Hylemorphisme*, 143, Beauchesne 1924
Acta Congressus Thomistici Primi, Secundi, xvii-315, Academia Rom. S. Thomae, Romae 1925
Nys D., *Cosmologie*, 2 vols., Warny, Louvain, new ed. 1928
Weyl H., *Time, Space, Matter* (trans. H. Brose), xi-330, Methuen, London 1922
Bittle C., O. M. Cap., *From Aether to Cosmos*, xii-498, Bruce 1941

SCIENCE AND PHILOSOPHY

- Eddington A., *Nature of Phys. World*, xvii-21-361, Macm. 1933
Eddington A., *Phil. of Physical Sc.*, ix-230, Macm. 1939
Sheen F., *Phil. & Science*, xxv-197, Bruce 1934
Reiser O., *Phil. & Concepts of Mod. Sc.*, Macm. 1935
Einstein A.-Infeld L., *Evolution of Physics*, x-319, Simon & Schuster 1938
Millikan R., *Electrons, Protons*, x-492, Chicago U. 1935
Meyerson E., *Identity & Reality* (trans. K. Loewenberg), 495, Macm. 1930

PSYCHOLOGY

RATIONAL

(St. Thomas: *S. T. I. 75-89; In tres lib. Arist. de An.: Quaest. Disp. De An., De Spirit. Creat.*)

TEXT BOOKS

- Remer V., S. J., *Psych.*, 329, Greg. U., Romae, 6 ed. 1928
Siwek P., S. J., *Psych.*, 543, Greg. U., Romae 1939
Fröbes J., S. J., *Psych. Spec.*, 2 vols., Herder 1927
Gredt J., O. S. B., *Elem. Phil. Arist.-Thom.*, vol. I, 328-503, Herder 1929
Gaetani F., S. J., *Psych.*, 223, Greg. U., Romae 1930
Glenn P., *Psych.*, viii-391, Herder 1936
Esser G., S. V. D., *Psych.*, xvii-515, St. Mary's, Techny, Ill. 1931

SUPPLEMENTARY READING

- Rousselot P., S. J., *Intellectualism of St. Thom.*, 231, S. & W. 1935
Maritain J., *Degrees of Knowledge*, xviii-475, Scribner 1938
Pegis A., *St. Thom. & Problem of Soul*, 213, St. Mich., Toronto 1934
Hoenen P., S. J., *De Orig. Form. Mater.*, 87, Greg. U., Romae 1932
Adler M., *What Man Has Made of Man*, xix-246, Longm. 1937
Willwoll A., S. J., *Seele und Geist*, 258, Herder 1938
Gredt J., O. S. B., *De Cog. Sen. Ext.*, Desclée, Romae, 2 ed. 1924
Jolivet R., *Les Sources de l'Idéal*, 222, Desclée, Paris 1936
Simon Y., *Intro. à l'Ontol. du Connaitre*, viii-234, Desclée, Paris 1934
Klubertanz G., S. J., "Rôle of Int. Senses," *Mod. School.* XVIII, 2, Jan. 1941

Non-Scholastic

- Jung C., *Mod. Man in Search of a Soul*, ix-282, Harcourt 1933
Meyers C., *In Realm of Mind*, 251, Cambridge U. 1937
Baudin E., *Précis de Psych.*, 439, de Gigord, Paris 1936

EXPERIMENTAL PSYCHOLOGY

TEXT BOOKS

- Gruender H., S. J., *Exper. Psych.*, xiii-455, Bruce 1932
Moore V., O. S. B., *Dynamic Psych.*, 444, Lippincott 1926
Moore V., O. S. B., *Cognitive Psych.*, viii-636, Lippincott 1939
Brennan R., O. P., *Gen. Psych.*, xxxvii-509, Macm. 1937
Fröbes J., S. J., *Compen. Psych. Exp.*, 386, Greg. U., Romae 1938
Harmon F., *Prin. of Psych.*, 609, Bruce 1938

SUPPLEMENTARY READING

- Gruender H., S. J., *Probs. of Psych.*, xi-209, Bruce 1937
Gruender H., S. J., *Psych. Without a Soul*, xviii-245, Herder 1912
Gruender H., S. J., *De Qualit. Sensib.*, 100, Herder 1911
Allers R., *Psych. of Charac.*, xii-383, S. & W. 1933
Allers R., *Prac. Psych. in Charac. Devel.* (trans. E. Strauss), 190, S. & W. 1934
Allers R., *New Psychs.*, xx-81, S. & W. 1938
Carrel A., *Man the Unknown*, xv-346, Harper 1935
Barrett J., S. J., *This Creature Man*, 364, Bruce 1936
Maher M., S. J., *Psychology*, xxx-603, Longm. 1933

Non-Scholastic

- Woodworth R., *Exp. Psych.*, 889, Holt 1938
Spearman C., *Psych. Down Ages*, 2 vols., Macm. 1937
Koehler W., *Gestalt Psych.*, 402, Liverwright, N. Y. 1929
Boring E., *Hist. of Exp. Psych.*, 2 ed., 699, Century 1931

NATURAL THEOLOGY

(St. Thomas: *S. T. I. 1-27; Sum. c. Gent.; Comp. Theol.*)

TEXT BOOKS

- Garrigou-Lagrange R., O. P., *God: His Exist. & His Nature:*
Vol. I, *The Exist. of God*, 392, Herder 1934
Vol. II, *The Nat. of God & His Attr.*, 576, Herder 1936
McCormick J., S. J., *Schol. Meta. II*, xviii-291, Loy. U., Chi. 1931
Remer V., S. J., *Theologia Nat.*, 237, Greg. U., Romae 1935
Descogs P., S. J., *Praelect. Theol. Nat.*, 2 vols., Beauchesne 1931-35
Romeyer B., S. J., *Theodicea*, 286, Val-pres le Puy 1931
Hontheim J., S. J., *Theodicea* (abr. ed.), 323, Herder 1926
Brosnan W., S. J., *Instit. Theol. Nat.*, 296, Loy. U., Chi. 1921

SUPPLEMENTARY READING

- O'Mahoney J., *Desire of God in the Phil. of St. Thomas*, 263, Long. 1929
Hull E., S. J., *God, Man & Nat. Relig.*, 168, Examiner Press, Bombay 1914

- Bremond A., S. J., *Religions of Unbelief*, 163, Bruce 1939
 Joyce G., S. J., *Princ. of Nat. Theol.*, 612, Long. 1923
 Brosnan W., S. J., *God and Reason*, 227, Fordham U. 1924; *God and Infinite Reason*, 236, Amer. Press 1928
 Sheen F., *God and Intelligence*, 295, Long. 1925

Non-Scholastic

- Bergson H., *Two Sources of Moral and Relig.*, 305, Holt 1938
 Alexander S., *Space, Time and Deity*, 2 vols., Macm. 1928
 Bertocci P., *The Empir. Arg. for God in Late Brit. Thought*, Harvard U. 1938
 Brightman E., *A Phil. of Relig.*, xvii-539, Prentice-Hall 1940
 Dawes-Hicks G., *Phil. Basis of Theism*, Macm. 1937
 Hocking W., *Living Relig. & a World Faith*, vii-293, Macm. 1940
 Laird J., *Theism & Cosmology*, 325, Allen & Unwin 1940
 Macintosh D., *Probl. of Relig. Knowl.*, Harpers 1940

ETHICS

(St. Thomas: S. T. I-II; II-II)

TEXT BOOKS

- Glenn P., *Ethics*, 302, Herder 1933
 Moore V., O. S. B., *Prin. of Ethics*, x-381, Lippincott 1935
 Cox I., S. J., *Liberty, Its Use & Abuse*, 454, Fordham U. 1938
 LeBuffe F., S. J., *Jurisprud.*, xxiii-286, Fordham U., 3 ed. 1938
 Brosnahan T., S. J., *Prolegomena to Ethics*, Fordham U. 1940
 Elter E., S. J., *Comp. Phil. Moralis*, Greg. U., Romae 1934
 Donat J., S. J., *Ethica*, Rauch, Innsbruck 1935
 Cathrein V., S. J., *Phil. Moral.*, 500, Herder, 8 ed. 1911
 Sullivan J., S. J., *Gen. Ethics*, 239, Holy Cross College 1929; *Indiv. Ethics*, 277, Holy Cross College, 2 ed. 1930
 Cronin M., *Science of Ethics*, 2 vols., Benziger, 2 ed. rev. 1930

SUPPLEMENTARY READING

- Farrell W., O. P., *Companion to the Summa: II "Pursuit of Happiness,"* viii-459, S. & W. 1939; *III "Fullness of Life,"* viii-530, S. & W. 1940
 Sertillanges A., O. P., *Phil. Moral. de S. Thom.*, Alcan, Paris, 2 ed. 1922
 Gilson E., *Moral Values & Moral Life* (trans. L. Ward), 337, Herder 1931
 Sheen F., *Moral Universe*, vii-170, Bruce 1936; *Whence Come Wars*, 119, S. & W. 1940; *Freedom under God*, vii-265, Bruce 1940
 Ryan J.-Boland F., *Cath. Prin. of Politics*, 366, Macm. (rev. ed. of *State & Church*) 1940
 Noonan J., *Prin. of Law & Gov't.*, 224, Mentzer & Bush, Chicago 1936
 Eppstein J., *Cath. Trad. of Law of Nations*, xxi-525, Burns, Oates 1935
 Scott J., *Cath. Concept. of Int. Law*, xv-494, Georgetown U. 1934; *Spanish Orig. of Int. Law*, Clarendon Press, Oxford 1934
 D'Arcy M., S. J., *Christian Morals*, xi-196, Longm. 1937
 Leibell J., *Readings*, xv-1090, Loyola U., Chicago 1926
 De La Brière Y., *La Communauté des Puissances*, Beauchesne 1932
 Gigon H., *Ethics of Peace & War*, xii-68, Burns, Oates 1935
 Vann G., O. P., *Morality & War*, 82, Burns, Oates 1939
 McFadden C., *Phil. of Communism*, xx-345, Benziger 1939
 Ryan J., *Mod. War & Basic Ethics*, ix-142, Bruce 1940

HISTORY OF PHILOSOPHY

GENERAL HISTORIES

- Turner W., *Hist. of Phil.*, 712, Ginn 1929
 Glenn P., *Hist. of Phil.*, 383, Herder 1929
 Miller L., *Hist. of Phil.*, 352, Wagner, N. Y. 1927
 Gény P., S. J., *Historia Phil.*, 390, Greg. U., Romae 1932

Non-Scholastic

- Ueberweg, *Geschichte der Phil.* (B. Geyer, ed.) 1928
 Bréhier E., *Histoire de la Phil.*, Alcan, Paris 1927
 Weber A., *Hist. of Phil.* (trans.), 604, Scribner
 Windelband W., *Hist. of Phil.* (trans.), 726, Macm. 1926
 Thonnard E., *Précis d'Hist. de la Phil.*, 810, Desclée 1937

ANCIENT PHILOSOPHY

GENERAL WORKS

- Zeller E., *Outlines of Greek Phil.* (trans.), 324, Harcourt 1941
 Burnet J., *Early Greek Phil.*, 375, Black, London 1930
 Stace W., *Crit. Hist. of Greek Phil.*, 386, Macm. 1920
 Gomperz T., *The Greek Thinkers*, 3 vols., Murray, Lond. 1905
 Klimke F., S. J., *Inst. Historiae Phil.*, 2 vols. Greg. U., Romae 1923
 Burnet J., *From Thales to Plato*, 360, Macm. 1928
 Zeller E., *Pre-Socratic Phil.*, 2 vols., London 1881

SPECIAL WORKS

- Robin L., *Greek Thought* (trans.), London 1928
 Décharme P., *La Crit. des Trad. Rel. chez les Grecs*, Paris 1904
 Adam J., *Religious Teachers of Greece*, Cambridge U. 1913
 Brochard V., *Les Sceptics Grecs*, Vrin, Paris 1923

SOURCES

- Diels H., *Doxographi Graeci*, Berlin 1897; *Die Fragmente der Vorsokratiker*, Berlin 1923
 Ritter-Preller, *Historia Phil. Graec.*, Gotha 1913

PLATO

TEXT

- Burnet J. (ed.), 5 vols., Oxford 1905-13
 Jowett B.-Campbell L., *Republic*, 3 vols., Oxford

TRANSLATIONS

- Jowett B., 5 vols., Oxford
 Loeb Classical Library, Heinmann, London
 Platon, complete works, translations, intro., 13 vols., Collection Budé, Paris 1925

STUDIES

- Zeller E., *Plato & the Older Academy*, Longm. 1888
 Taylor A. E., *Plato: The Man & His Work*, 562, Dial, N. Y. 1929
 Nettleship R., *Phil. Remains & Lectures*, 2 vols., Macm. 1901
 Dies A., *Autour de Platon*, 2 vols., Beauchesne 1927
 Lutoslawski W., *Orig. & Growth of Plato's Logic*, London 1897
 Robin L., *Platon*, 364, Alcan, Paris 1935
 Ritter C., *Essence of Plato's Thought*, Allen & Unwin, Lon. 1933
 Shorey P., Intro. to Loeb Ed. of Republic, Heinmann, Lon. 1931
 Friedlander J., *Platon*, 2 vols., Paris 1930
 Pater, W., *Plato & Platonism*, 120, Longm. 1927
 Grote G., *Plato & Compan. of Soc.*, 3 vols., Murray, Lon. 1870
 Taylor A. E., *Plato*, 150, Constable, London 1926
 Shorey P., *Unity of Plato's Thought*, Chicago U. 1935

ARISTOTLE

TEXT

- Bekker, Berlin ed. (5 vols. 1831-1836)
 Didot, Paris ed. (5 vols. 1870)

TRANSLATIONS

- Oxford English trans. Smith & Ross (eds.), 11 vols., Clar., Oxford
 German trans. H. Bonitz, Berlin 1890

COMMENTARIES

- St. Thomas Aquinas, *Comm. in Libros Arist.*
 Sylvester Maurus, *Comm. in Arist.*
 Ross W., *Metaphysics*, introd. text & notes, 2 vols. Clar., Oxford 1924
 Hicks R., *De Anima*, text, trans. & notes, Camb. U. Press 1907
 Bonitz H., *Metaphysics*, text, commentary (in Latin), Bonn 1848

STUDIES

- Zeller E., *Aristotle & the Early Peri-patetics*, 2 vols., Longm. 1897
 Jaeger W., *Aristotle*, Clar., Oxford 1934
 Ross W., *Aristotle*, 282, Methuen, London 1930
 Taylor A. E., *Aristotle*, London 1919
 Roland-Gosselin, *Aristote*, 204, Flammarion, Paris 1928
 Wallace, E., *Outlines of Phil. of Aristotle*, 130, Cambridge 1927
 Piat C., *Aristote*, Paris 1912
 Mure G., *Aristotle*, 282, Oxford 1932
 Stocks J., *Aristotelianism*, Longmans 1927
 Geyser J., *Erkenn. des Arist.*, 316, Schöningh, Paris 1917

SAINT AUGUSTINE

TEXT

Migne, *Patrologia Latina* tt. XXXII-XLVII; *Corpus Scriptorum Ecclesiasticorum Latinorum*, vol. XXIV

EDITIONS AND TRANSLATIONS

Works, Edition of St. Maurus, 12 vols. (same tx. as Migne)
S. Augustini, *De Illuminatione Animae* (ed. C. Boyer), Greg. U., Romae
Lenfant D., O. P., *Concordantiae Augustinianae*, Paris 1656

STUDIES

Portalie E., "St. Augustine," *Dictionnaire de theol. Cath.*
Chapman E., *St. Augustine's Phil. of Beauty*, Sheed & Ward 1939
Gilson, E., *Introd. à l'étude de s. Augustin*, Beauchesne, Paris 1931
Boyer C., S. J., *Essais sur la doctrine de s. Augustin*, Greg. U. 1933
Gilson E., "Pourquoi S. Thomas a critiqué S. Aug.," *Archives de Phil.*, Beauchesne 1923
Bertrand L., *St. Augustine*, Appleton 1914
Vega A., *St. Augustine: His Philosophy* (trans. from the Spanish), 264, Reilley, Phila. 1931
D'Arcy M., S. J., *Monument to St. Augustine*, 367, S. & W. 1930
Naughton J., S. J., "Phil. of Beauty in St. Aug.," *Mod. Schoolman*, March 1940
Boyer C., S. J., *Christianisme et néo-platonisme dans la formation de saint Augustin*, Greg. U., Romae 1920
Boyer C., S. J., *L'idée de vérité dans la phil de s. Aug.*, Greg. U. 1921

MEDIEVAL PHILOSOPHY

GENERAL WORKS

Gilson E., *Spir. of Med. Phil.* (trans.), 490, Scribner 1936
De Wulf M., *Hist. of Med. Phil.* (trans.), I (to 1200) Longm., 6 ed. 1935; II, Longm. 1926
Grabmann M., *Mittelalterliches Geistesleben*, 2 vols., Hueber, Munich 1936
Bréhier E., *Phil. au Moyen Age*, 458, Albin, Paris 1937
Ueberweg F., *Geschichte der Phil.*, II (Baumgartner ed.), Mittler, Berlin 1915; II (Geyer ed.) 1928
Grabmann M., *Die Geschichte der Katholischen Theologie*, Herder 1933

SOURCES

Migne, *Patrologia Latina*, for texts of writers to 1216
Beiträge zur Geschichte der Phil. des Mittelalters (BGPM), a useful collection published yearly at Münster 1891-1938
Archives d'Histoire Doctrinale et Littéraire (AHMA), publ. yearly at Paris (ed., E. Gilson & C. Théry), Vrin 1926
Études de Phil. Med., publ. yearly at Paris (dir. E. Gilson), Vrin 1926-1938
Medieval Studies, yearly coll. of the Pont. Instit. of Med. Studies at Toronto, S. & W. 1939

SAINT THOMAS

EDITIONS

Opera Omnia Sancti Thomae Aquinatis, Paris 1660 (compl.); Parma 1852 (compl.); Leonine, Rome 1882; Marietti, Turin

EDITIONS AND TRANSLATIONS OF PARTS

Summa Theol. (trans. Fathers of Engl. Dom. Prov.), Burns, Oates 1922; *Summa contra Gentiles* 1923
Sum. c. Gent., Farzani, Romae 1927
Sum. c. Gent. (ed. Leon. manualis), 1934 Herder
In Arist. Lib. de Anima Comm. (ed. M. Pirota, O. P.), Marietti 2 ed. 1936
In Metaph. Arist. Comm. (ed. P. Cathala, O. P.), Marietti 1935
Scriptum super Lib. Sent. IV vols. (ed. Mandonnet, O. P.), 1929
De Unit. Intell. (ed. crit., L. Keeler, S. J.), Romae 1936
Tract. de Spirit. Creat. (ed. crit., L. Keeler, S. J.), Romae 1938
De Ente et Ess. (ed. C. Boyer, S. J.), Romae 1933
Compend. Theol. (trans. R. Dunn), St. Mich., Toronto 1934
On Being and Essence (trans. C. Riedl), St. Mich., 2 ed. 1940
On Gov. of Rulers (trans. G. Phelan), St. Mich. 1935

STUDIES

Gilson E., *Phil. of St. Thom.* (trans. E. Bullough), Herder, 2 ed. 1929
Maritain J., *Angelic Doctor*, xviii-300, Dial, N. Y. 1931
Grabmann M., *Thomas Aquinas*, 191, Longm. 1928
Sertillanges A., O. P., *S. Thom. d'Aquin*, 2 vols., Paris, 3 ed. 1922
Pegis A., *St. Thom. & the Greeks*, 107, Marquette U. 1939
Rousselot P., S. J., *The Intell. of St. Thom.*, S. & W. 1936
McCormick J., S. J., *St. Thom. & Life of Learning*, 25, Marquette U. 1938
D'Arcy M., S. J., *Thom. Aquinas*, 292, Benn, Lond. 1930

Adler M., *St. Thom. & the Gentiles*, Marquette U. 1938
Marc A., S. J., *L'idée de l'Etre chez S. Thom.*, Arch. de Phil. X, Beauchesne 1933
Meyer H., *Thom. von Aquin. Sein System und seine Geistesgeschichtliche Stellung*, xii-641, Bonn 1938
Wébert J., O. P., *Essai de Métaph. Thom.* (ed. de la Rev. des Jeunes), Paris 1928
Roland-Gosselin M., O. P., *Le De Ente et Ess. de S. Thom. d'Aq.*, Vrin, Paris 1926
Forest A., *La Structure Métaph. du concret selon S. Thom. d'Aq.*, Vrin, Paris 1931

OTHERS

Dictionnaire de Théologie Catholique, 14 tomes, Letouzey, Paris 1903-1939
BOETHIUS, Migne, PL vols. 63-64
Stewart, *Boethius*, Edinburgh 1891
ABELARD, *Peter Abaelards philosophische schriften* (ed. B. Geyer), Munster, Aschendorff 1933 (BGPM)
Sikes J., *P. Abailard*, xvi-282, Cambr. U. 1932
ANSELM, Migne, PL 158-159
Revue de Philosophie, Dec. 1909 (dev. to St. Anselm)
ALBERT THE GREAT (ed. A. Borgnet), 38 vols., Paris 1890-99
Meerssemann, O. P., *Introd. in Opera Omn. B. Alb. Magni*, xiv-175, Beyaert, Bruges 1931
BONAVENTURE, *Opera Omnia*, 10 vols., Quaracci 1822-1902
Gilson E., *The Phil. of St. Bonav.* (trans. I. Trethowan, O. P., & F. Sheed), 551, S. & W. 1938
SCOTUS, *Opera Omnia* (ed. Wadding), 12 vols., Lyon 1639
Longpré E., *La Phil. du Bl. Duns Scot*, Paris 1924
SUAREZ, *Works*, 26 vols., Paris 1856-1866
Werner C., *Franz Suarez und die Scholastik der letzten Jahrhunderte*, Ratisbonne 1861
Conze E., *Der Begriff der Meta. bei F. Suarez*, Leipzig 1928
Sharp D., *Frans. Phil. at Oxf. in XII Cent.*, viii-420, Oxf. 1930
Muller-Thym B., *Univ. of Being in Meister Eckhart*, 160, S. & W. 1938
Muckle J., C. S. B., *Algazel's Meta.* (Lat. text), S. & W. 1938
Smith G., S. J., et al., *Jesuit Thinkers of Renaiss.*, 254, Marquette U. 1939

JOURNALS OF PHILOSOPHY

ENGLISH

The New Scholasticism, Quart., Wash., D. C., Cath. Univ. of Amer., \$4.00, 1926
The Modern Schoolman, Quart., St. Louis, St. Louis U., \$1.00, 1925
The Thomist, Quart., N. Y., S. & W., \$4.00, 1939
Medieval Studies, Yearly, N. Y., S. & W., for Instit. of Med. Studies, Toronto, \$5.00, 1939
Non-Scholastic
The Philosophical Rev., Bi-monthly, N. Y., Longm., \$5.00, 1892
The Journ. of Phil., Fortnightly, N. Y., Colum. U., \$4.00, 1921
The Personalist, Quart., Los Angeles, U. of S. Cal., \$2.00, 1919
Philosophic Abstracts, Quart., N. Y., D. Runes, 884 Riverside Dr., \$4.00, 1939
Mind, Quart., London, Macm., \$4.50, 1876

FOREIGN LANGUAGE

Revue Neo-Scholastique de Phil., Quart., Louvain, L'Institut Supérieur de Phil., 60 fr., 1894
Revue Thomiste, Paris, Desclée, 55 fr. 1893
Bulletin Thomiste (suppl. to Rev. Thom.) La Soc. Thomiste, 40 fr. 1924
Archives de Phil., Yearly, Paris, Beauchesne, 1923
Scholastik, Quart., Valkenburg, Ignatiuskolleg 1926
Gregorianum, Rome, Greg. U., 40 liv., 1920

SPECIAL WORKS

Maritain J., *Science and Wisd.* (trans. E. Watkin), ix-241, Scribner 1940
Gilson E., *Christianity & Phil.* (trans. R. McDonald), xxvi-134 S. & W. 1939
Adler M., *The Probl. of Species*, 286, S. & W. 1940
Castiello J., S. J., *Humane Psych. of Educ.*, xxiii-254, S. & W. 1936
Eymieu A., *La Gouvernement de soi-meme*, 371, Perrin, Paris 1924
Lindworsky J., S. J., *The Training of the Will* (trans. A. Steiner & E. Fitzpatrick), 226, Bruce 1929
Schmidt W., S. V. D., *Orig. & Growth of Relig.* (trans. H. Rose), xvi-302, Dial, N. Y. 1931
Lindworsky J., S. J., *The Psych. of Ascet.* (trans. E. Heiring), 95, Edwards, London 1936
Maritain J., *True Humanism*, xvii-304, Scribner 1938; *Schol. & Polit.*, viii-248, Macm. 1940
Mercier L., *The Chall. of Humanism*, 283, Oxf. U., N. Y. 1933
Zybura J., (ed.), *Pres. Day Thinkers & New Schol.*, 543, Herder 1926
LeRoy A., *La Relig. des Primitifs*, vii-518, Beauchesne 1909
Hart C., *Aspects of New Schol. Phil.*, xi-311, Benziger 1932

[Separate copies of the bibliography, twenty-five cents each]

On the Contemplation of Beauty

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OUR age is not in love with reality, neither in the fullness of its extent, nor in the fullness of its revelation. It is not in love with beauty. For although we Americans have beautiful homes and gardens, masterpieces of art and literature, can we truly say that we love their beauty? Modern critics of art declare that their function is hardly to tell us whether the object they criticize be beautiful or not, but rather to judge whether it falls within the tradition and has significance for our times. Philosophers would chain us down to the world of sense by regarding our search for reality as a grasping, passionate quest that is satisfied only by absorbing the object of its search, so that even the sensible beauty within its reach always eludes its grasp.

Beauty Is Being

Beauty does not parade with fashion but rather dwells at the heart of things, and reveals itself only to those who would lift the veil and see. There is beauty in everything that *is*: in the woods, in the birds, in the sea, in the endless course of the stars, in the elegant proportion of the human body, in literature and art. Even in things that offend the senses, there is beauty; perhaps not in sensible appearance because herein they lack being, but in the forms which do not fall directly under the senses. Here is a beauty which our senses not only do not see but often keep the mind from seeing because of apparent ugliness. A rat is beautiful at least in this that it has a substantial form which is a faint ray of the beauty which is divine.¹ There is beauty in tears and sorrow and disappointment. There is beauty in the tumult, toil, and weariness of the busy city. But too often we do not see with the same eyes as the lover of beauty.

As he caught this deeper meaning, borne in upon his spirit by the sighs and sobs and groans of men and women in that great multitude, his vision grew clearer and deeper, and he saw everywhere the signs and sorrow and joy of the works which every man does not only with his hands but with his soul; and slowly, through the dust and turmoil and smoke, he discerned the meaning of it all: the passing of truth into life, the birth of beauty, through anguish and sorrow, into visible form.²

Everything that *is* is beautiful (*nihil est quod non participat pulchro*),³ and to deny this is like denying that there are stars in the sky during the daytime because we cannot see them.⁴ Beauty is transcendent. It extends from the dust of earth to the beauty of Being in divine existence itself.

The notion of beauty denotes a relation. And in the description of beauty set down by St. Thomas, we find

this relational aspect indicated. *Pulchra dicuntur quae visa placent.*⁵ *Pulchrum dicatur id cuius ipsa apprehensio placet.*⁶ Just what is the term of reference is not clearly stated here; *visa* and *apprehensio*, however, have definite reference to cognition.

Sense knowledge, however, is of itself unfitted and inadequate for the appreciation of the beautiful. Among the senses it is the eyes and ears which participate most in the aesthetic experience. But although the eyes love beautiful forms and bright and pleasing colors (*pulchras formas et varias, nitidos et amoenos colores amant oculi*)⁷ and the ears are delighted with the harmony of measured tones, the ears are not filled with hearing and the eyes are not filled with seeing. For although there is a certain rational power in the sense (*nam et sensus ratio quaedam est*)⁸ in function of which the senses are delighted in things which are harmoniously proportioned and fitted by likeness to themselves—the measured sound of music to the numbers of sense, says St. Augustine,⁹ and the equality and congruence of beautiful colors with our nature—still we must not confuse what the senses perceive with what is perceived by means of the senses (*aliud sensus, aliud per sensum*).¹⁰ For sensible beauty is beautiful as being rather than as sensible, and as the faculty of being is intellect the reference of beauty is in an ordering to intellect. In brief, the eye sees beautiful objects, but only the intellect apprehends beauty.

Beauty Is Truth and Goodness

Beauty then is truth—but it is truth under the aspect of its resplendent revelation. For beauty has a lustre of intelligibility which so blends with the perceiving mind that our spirit comes to rest therein with the tranquil equilibrium of perfect activity. And since beauty is the true delight of our intellect, it is the end and good of our intellect. But the good of the intellect which is the noblest

⁵ S.T. I. 5. 4 ad 1.

⁶ S.T. I-II. 27. 1. 3m.

⁷ St. Augustine, *Confessiones*, X. 34. 51.

⁸ S.T. I. 5. 4 ad 1: "... Pulchrum autem respicit vim cognoscitivam: pulchra enim dicuntur quae visa placent; unde pulchrum in debita proportione consistit, quia sensus delectatur in rebus debite proportionatis, sicut in sibi similibus; nam et sensus ratio quaedam est; et omnis virtus cognoscitiva. Et quia cognitio fit per assimilationem, assimilatio autem respicit formam; pulchrum proprie pertinet ad rationem causae formalis."

⁹ St. Augustine, *De Musica*, VI. 11. 31.

¹⁰ St. Augustine, *De Ordine*, II. 11.34: "... non enim, si pinnatam Venerem faciat et Cupidinem palliatum, quamvis id mira membrorum motione atque conlocatione depingat, oculos videtur ofendere sed per oculos animum, cui signa rerum illa monstrantur; nam oculi offenderentur, si non pulchre moveretur. Hoc enim pertinebat ad sensum, in quo anima eo ipso, quod mixta est corpori, percipit volumptatem. Aliud ergo sensus, aliud per sensum; nam sensum mulcet pulcher motus, per sensum autem animum solum pulchra in motu significatio..."

¹ *In Libro de Divinis Nominibus*, Cap. iv, lect. 6. "... ex pulchro causantur omnes essentiae substantiales entium. Omnis enim essentia vel est forma simplex, vel habet complementum per formam. Forma autem est quaedam irradiatio proveniens ex prima claritate. Claritas autem est de ratione pulchritudinis, ut dictum est."

² H. W. Mabie, *Parables of Life*. New York, Macmillan, 1904. p. 78.

³ *In Libro de Divinis Nominibus*, Cap. iv, lect. 5.

⁴ St. Augustine, *De Vera Religione*, Cap. xxxii.

and most divine power we have, is what the will most desires.¹¹ So, although beauty properly belongs to the order of formal causality,¹² since its reference is to intellect, yet because it carries with it the breath of love in which the will finds its joy, beauty endows itself with the goodness in which the will delights.¹³ Thus the quest of the mind for the fullness of reality and its rest therein falls under the causality of beauty. *Motus et quies reducuntur in causalitatem pulchri.*¹⁴

Beauty, we say, is being, truth, and goodness. Its being is that which is the perfection of perfections, existence. Its goodness gives rise to that harmony and proportion of perfect order in which created things are related to one another and to their final end. Who is the perfection of order. Its truth shines forth with the clarity of intelligibility with which we enrich and make beautiful our souls.

Before passing to a discussion of the order of relation which beauty is, perhaps it would be well to say a word on the relation of sense perception and sensible emotion to the human experience of the beautiful. Aesthetic experience, although it rides the peaks of human vitality, yet shares with man a composite nature. Like man it has two elements which are ordered to each other as matter to form. Its formal part is the keen intellectual insight which delights in the intelligibility of its object. The material part is made up of the sense perception and sensible emotion. And as all the perfection in man comes from the form which is his soul, so too the perfection of the aesthetic experience is essentially in the act of intellect by which beauty is perceived. But just as the soul of man is incomplete and in a sense imperfect without its material counterpart, so the human experience of beauty would be incomplete and imperfect without sensible delight and emotion. No one, however, who knows their meaning would confuse matter and form; for one is perfection, the other denies perfection. Likewise no one should confuse the material part of aesthetic experience with that which formally constitutes it. One is not the other. One is strictly subordinated and ordered to the other. Hence sense perception and sensible emotion participate in our experience of the beautiful, but only in so far as they are ordered to the act of contemplation.¹⁵

¹¹ *Sum. c. Gent.*, III. xxvi.

¹² *In Libro de Divinis Nominibus*, ch. iv. lect. 5: "Singula sunt pulchra secundum propriam rationem, idest secundum propriam formam."

¹³ *I Sent.*, d. 31, 2. 1 ad 4: "Pulchritudo non habet rationem appetibilis nisi in quantum induit rationem boni: sic enim et verum appetibile est."

¹⁴ *In Libro de Divinis Nominibus*, ch. iv. lect. 6. "Et hoc ideo dicit, quia illud plerumque quod est super omnem quietem et motum, est causa omnibus et quietis et motus, in quantum collocat unumquodque in propria sua ratione, in qua res habet suam stationem, et in quantum movet omnia ad divinum motum, quia motus omnium ordinantur ad motum quo moveantur in Deum, sicut motus qui sunt ad fines secundos ordinantur ad motum qui est ad finem ultimum. Forma autem a qua dependet propria ratio rei, pertinet ad claritatem; ordo autem ad finem ad consonantiam, et sic motus et quies reducuntur in causalitatem pulchri."

¹⁵ *S.T. I-II. 27. 1 ad 3*: "Pulchrum est idem bono sola ratione differens: cum enim bonum sit quod omnia appetunt, de ratione boni

Relation to Intellect

We now come to a consideration of the correspondence of beauty with intellect. Beauty concerns not *any* act of intellect but one which is characterized by a certain clarity of insight and depth of realization. As we approach the subject of human intellection, we are impressed by its complexity. Not only do we find a multiple operation of intellect, but complexity within operation. Moreover there are several habits of intellect which concern the mode in which and facility with which the act reaches its object. And finally, the objects which it can know vary in intelligibility from the lowest forms of earth to the brilliance of intelligibility in Beauty Itself.

There are three operations of the human mind: two of intellect, simple apprehension and judgment, and one which is reason. Clearly the act in which beauty is perceived is not reason, because therein the mind does not rest; for reason is ordered to judgment. Moreover the proper object of reason is being in its caused sequence rather than being itself, and so, although reason is exercised by the same human faculty, it is not strictly an operation of intellect.¹⁶

Contemplation an Intuition

The plunge into reality in function of which mind contemplates beauty is intuitive in character, as suggested in the phrase *quae VISA placent*. And as beauty is seen and loved without any consciousness of the terms of judgment but merely with the assent of the mind to the beautiful object, we would be inclined, perhaps, to assign the act as that of simple apprehension. However, beauty like truth follows the act of being which is to be.¹⁷ And therefore it is of such character that simple apprehension cannot deal with it, because the object of simple apprehension is essence, not existence.¹⁸ Judgment alone brings the mind to the existence of things.

Although it is by way of judgment that we experience the beauty of being, we must not think of judgment as a pure perfection. For composing and dividing in cognition is a compensation for the weakness of our intellect—a weakness which follows upon the composite nature of man, the principle of whose knowledge is sensible, composite

est quod in eo quietetur appetitus: sed ad rationem pulchri pertinet quod in ejus aspectu seu cognitione quietetur appetitus: unde et illi sensus praecipue respiciunt pulchrum qui maxime cognoscitivi sunt; scilicet visus et auditus rationi deservientes: dicimus enim pulchra visibilia et pulchros sonos."

¹⁶ *De Ver.*, 15. 1 ad 5. Sed ratio nostra quamvis sit composita, ex hoc tamen quod in ipsa aliquid de natura simplicis invenitur, sicut exemplar in sua imagine, potest in aliquem actum simplicem, et in aliquem actum compositum, prout componit praedicatum cum subjecto, vel prout componit principia in ordine ad conclusionem: unde eadem potentia in nobis est quae cognoscit simplices rerum quidditates, et quae format propositiones, et quae ratiocinatur: quorum unum proprium est rationis in quantum est ratio; alia duo possunt esse intellectus, in quantum est intellectus.

¹⁷ *In Libro de Divinis Nominibus*, ch. iv. lect. 5. "Nihil est quod non participat pulchro et bono cum unumquodque sit pulchrum et bonum secundum propriam formam."

And also: "Omnis autem forma, perquam res habet esse, est participatio quaedam divinae claritatis." (*ibid.*)

¹⁸ *In Boethii de Trinitate*, 5. 3 resp. "Sciendum igitur secundum Philosoph. III de Anima, quod duplex est operatio intellectus. Una

things. But does not such a process of joining subject and predicate in judgment destroy its intuitional character? Your own artistic experience perhaps may lead you to deny that in contemplating a beautiful picture or a sunset there is any enuntiation made at all. What is subject and what predicate? However if we recall, the essence of judgment is not composition and division, but the affirmation of an act of being, which is a simple act, we shall see that its intuitional character remains; composition is but the condition of its function, and enters judgment only because material reality presents itself to us with this discursive element.¹⁹

Not every judgment, however, gives or can give us the experience of the beautiful. For such perception requires a certain type of visualization in which not only truth is assented to, but the splendor of truth is seen and loved. Such judgments as the first principles of knowledge which are known by every man that comes into the world, have a natural degree of visualization called *intellectus principiorum*, which is required to see the truth of any proposition. Clearly it is not with this kind of visualization that we pierce to the beauty of things. Nor is beauty apprehended in the second degree of visualization called *scientia*, which sees truths in the light of their proximate reasons and causes. For although *what* is apprehended in such light is beautiful, still beauty itself is borne in upon the mind only in the ultimate intelligible light which the visualization called *sapientia* gives. For it is *sapientia* alone that unfolds the fullness of reality, and sees the integrity of being found in the richness of perfection and the proportion of perfect order, which delights in the brilliance and clarity of form bursting its limitation and illuminating our intelligence.

The Act of Wisdom

This act of the virtue in which our intellect burns its brightest gives man his greatest beauty. *In vita contemplativa quae consistit in actu rationis per se et essentialiter invenitur pulchritudo.*²⁰ And, as it is in this beauty that the perfection of man consists, so it is in this act of contemplation which is the visualization of wisdom that the highest perfection of reality is perceived. Beauty is for our minds, and it is in contemplating it that we ourselves become beautiful in the exercise of our highest act.

The great insistence put on wisdom in the apprehension of beauty may mislead some into thinking that an ordered study of being is necessary before any one can con-

template beauty. Such a study of being, though tremendously helpful, is not necessary in order to participate in some degree the act of contemplation. Everyone who does not stultify his mind arrives naturally at some degree of natural wisdom, according to which he can see, at least in some confused way, the ultimate intelligibility of an object.²¹ For example, a peasant in the field as he stands in the furrow of his plough, gazing at the sunset pouring its grandeur over the earth, sees with a visualization that carries beyond the array of colors and patterned form and comes to rest somehow in the unfathomable mystery of being itself. He knows and loves its beauty even though he has never had a book in his hand. Again, a college student may study the nature of the soul all day long in his university classes, and never once contemplate its beauty, whereas a mother looks many times into her child's eyes and contemplates the purity and nobility of soul reflected there. She has never, perhaps, handled a textbook of psychology, but she can apprehend beauty; in some confused way at least she sees its ultimate intelligibility.

Yet wisdom does grow and develop to its fullness in ordered intellectual training. Knowledge (*scientia*) itself, however, is no true criterion, for unless knowledge is ordered to its true and ultimate end, it does not partake of wisdom. Hence the professor who worships his science and conceives everything else as subservient and ordered to this has not the virtue of wisdom. An atheist cannot have wisdom, and if he apprehends beauty, it is because for the moment he has forgotten his principles. On the other hand, a poor scrubwoman may share the virtue of wisdom, because everything she knows in some way she refers to God. Only knowledge therefore which is informed with the light of its ultimate intelligibility can bear the name of wisdom. And as wisdom grows and as we successively turn to the ever increasing beauty, the act of contemplation itself will be more perfect in degree and intensity.

Highest Act of Man

The act of contemplation then, because it is the plenary act of the noblest faculty of man, according to its highest virtue, is specifically the most perfect act that man can exercise. Every other act that he can posit, if properly ordered, is ordered to this highest activity of our nature. The moral virtues themselves²² are ordered to this act and their proper function is to dispose the mind for the contemplation of the truth which is beauty. And as the object of this act rises in intelligible light from the beauty of forms in matter to the beauty of forms independent of matter, but *in* matter, to the beauty of subsistent forms, the highest of which is God Himself in the eternal splendor of His infinite knowability, we approach the goal of life which is the contemplation of the beauty of God Himself.

This contemplation is the highest of three kinds: they may be indicated according to the way in which the object is attained. First, there is contemplation in which

quae dicitur intelligentia indivisibilium, qua cognoscitur de unaquaque re quid est. Alia vero est, qua componit et dividit, scilicet enuntiationem negativam vel affirmativam formando, et hae quidem duae operationes, duobus quae sunt in rebus respondent. Prima quidem operatio respicit ipsam naturam rei, secundum quam aliaqua res intellecta aliquem gradum in entibus obtinet, sive ut res completa ut totum aliquod, sive incompleta, ut pars, vel accidens. Secunda operatio respicit ipsum esse rei, quod quidem resultat ex aggregatione principiorum rei in compositis, vel ipsam simplicem naturam rei concomitatur, ut in substantiis simplicibus."

¹⁹ See note 16. Also *In I Periherm.*, lect. 3, (ed. Leon. no. 4). For a brief study of these texts in this regard see B. J. Muller-Thym's article "Music" in the *Fleur De Lis*, Oct., 1940.

²⁰ S.T. II-II. 180. 2, ad 3.

²¹ Sum. c. *Gent.*, III. 38: "Est quaedam communis et confusa Dei cognitio quae quasi omnibus adest, quia naturali ratione statim in aliqualem Dei cognitionem pervenire potest."

²² S.T. II-II. 180. 4.

the object falls directly under the senses, as for example in contemplating the sensible beauty of nature, or the works of art in so far as they are *presentative* of natural beauty. Of all the arts music falls most completely within this degree of contemplation.²³ Second, there is contemplation of the intelligible in matter which is indirectly attained by the senses. Here we find beauty in works of art in so far as they are *representative* or *symbolic*. In them symbolic accidental form is the main subject of beauty rather than the natural (non-conventional) sensible harmony and proportion; instances of this are *Hamlet*, or *The Gleaners* by Millet. Analogous to the contemplation of art is the contemplation of substantial forms, as for example the soul of man, or the ordering of material creation to God. For, substantial form is to the matter in which it is received as the accidental form introduced by the artist is to its subject.²⁴ Third, there is contemplation in which the object is not attained by the senses, but the senses are only analogical starting points. This is the contemplation of separate substances. The contemplation of beauty in the highest separate substance is our most perfect natural contemplation.

The Possession of Perfect Beauty

The contemplation of divine beauty, however, as we by the natural powers of our intellect can have it, gives us only a very imperfect knowledge of God's beauty. Even our knowledge of created beauty must be imperfect because it does not give us possession of the thing known in all the fullness of its being. We know and contemplate in an intentional *verbum* which carries the mind to the existence of the thing known, but yet mind does not possess the thing in its physical existence. In knowing created beauty, the intellect, having conceived the essence of the object by simple apprehension, affirms in judgment that this essence which exists in the mind is the same essence

that exists outside the mind, whether we affirm simply that a thing is, or that it is in respect of a certain mode, as for example, thing is beautiful or man is wise.²⁵ In contemplating divine beauty, however, in which essence and existence are identical, our human equipment becomes inadequate. For we cannot affirm that the construct essence, the definition of God, which exists in the mind is the same essence which exists outside. In knowing God we know first rather that He exists and then we try to fathom His essence. But when we have come to the knowledge that He is and know something of His beauty from creation, we desire to know more about the source and cause of this beauty. And as everything that is not God Himself will only imperfectly represent Him because it is finite and an effect,²⁶ and as when we know an effect we naturally desire to know its cause, our minds will never come to perfect satisfaction until we know Him as He is in the unmediated knowledge of the beatific vision. Thus St. Thomas says that man has a *natural* desire for the vision of God, wherein divine beauty is contemplated face to face.²⁷

This is that life above all others which man should live, in the contemplation of beauty absolute; a beauty which if you once beheld, you would see not to be after the measure of gold, and garments, and fair boys and youths, whose presence now entrances you; and you and many a one would be content to live seeing them only and conversing with them without meat or drink, if that were possible—you only want to look at them and to be with them. But what if man had eyes to see the true beauty—the divine beauty, I mean, pure and clear and unalloyed, not clogged with the pollutions of mortality and all the colours and vanities of human life—thither looking, and holding converse with the true beauty simple and divine? Remember how in that communion only, beholding beauty with the eye of the mind, he will be enabled to bring forth, not images of beauty, but realities (for he has hold not of an image but of a reality), and bringing forth and nourishing true virtue to become the friend of God and be immortal. . . .²⁸

Our study has led us from a consideration of beauty as the fullness of reality to the act of contemplation in which beauty is known and finally back to Beauty Itself, which is the happiness and final beatitude of our being. The quest for beauty will naturally lead to its source: Divine Beauty. Such a quest is a work of wisdom.

²³ In VII Meta. lect. 2 (Cathala No. 1277).

²⁴ For a brief study of judgment see G. Phelan, "Verum Sequitur Esse Rerum," *Medieval Studies*, 1939. Vol. I, pp. 11-23.

²⁵ S.T. I. 13. 2.

²⁶ Cf. for the establishment of this statement Edmund Bribois, "Human Desire and the Vision of God in St. Thomas," *Modern Schoolman*, Vol. XVI, 1938, pp. 9-14, 29-32, 37-41. Cf. also S.T. I-II. 3. 8c.

²⁷ Plato, *Symposium* 211.

²⁸ Music in its purest form most closely approaches nature in its presentation of beauty. Its discourse is least symbolic and falls like the beauty of nature most directly under the senses. I believe that it is for these reasons that Aristotle calls music the most imitative of the arts. Cf. *In II Physic.* lect. 4, (ed. Leon. no. 2): "Ejus autem quod ars imitatur naturam ratio est, quia principium operationis artificialis cognitio est; omnis autem nostra cognitio est per sensus a rebus sensibilibus et naturalibus accepta: unde ad similitudinem rerum naturalium in artificialibus operamur. Ideo autem res naturales imitabiles sunt per artem, quia ab aliquo principio intellectivo tota natura ordinatur ad finem suum, ut sic opus naturae videatur esse opus intelligentiae, dum per determinata media ad certos fines procedit: quod etiam in operando ars imitatur."

Molecular and Atomic Continuity

Two recently published discussions, the first, Father James A. McWilliams' article in the November 1940 "Modern Schoolman" entitled "The Supposit in the Inorganic World" and the second an abstract of Mr. George Tipton's paper, "Molecules, X-Rays and the Continuum", found on page 41 of the Jesuit Science Bulletin for October 1940 raise some very interesting points regarding the nature and extent of fields of force.

Unless I have misunderstood the argument, in Father McWilliams' treatment it is implied that the de facto continuity of the molecule follows from the fact that the parts of the molecule (atoms, electrons,

protons, etc.) act upon one another with forces of attraction and/or repulsion, and that since action at a distance is most probably physically repugnant there must be a medium between the interacting parts. This medium is then to be considered as a continuous "something" which permits the predication of continuity with respect to the molecule as a whole. Thus if it be granted that the molecule as a "natural unit" satisfies all other requirements necessary to constitute it an *unum per se*, then no difficulty should arise on the score of continuity as required by the Thomistic School for every corporeal individual.

Without conceding that the molecule *does* satisfy all other requirements for an *unum per se* (a point which must be established before the present discussion assumes significance) let us examine the conclusions that would appear to follow from the above argument for molecular continuity through fields of force.

Interaction and Medium

The hub of the argument seems to me to be based on the idea that the interaction of bodies as manifested by attractive and repulsive forces requires a continuous medium. If this be true, then as far as the reasoning in question is concerned it can and should be applied to practically all types of force fields, i.e. electric, magnetic and gravitational as well as those of the Van der Waals or even of the exchange type. Whether the fields follow the well known inverse square law, as found for gravitating matter as well as for spherically distributed electrostatic charges, or obey some less thoroughly established formula for the diminution of their intensity with distance, as far as this writer knows, all the above mentioned type of fields have the following property in common, namely: that no matter how the force function be expressed *as far as the space outside the bodies themselves is concerned* the intensity of the field may drop to zero only at certain points known as singularities, but, theoretically at least, *extends in all directions to an infinite or at least to an indefinite distance from its source.* That these fields may become negligible at great distances, as far as our measuring instruments are concerned, is of physical but not philosophical importance.

In other and in simpler words of Newton's universal law of gravitation, "every body in the universe attracts every other body" and extending the notion to the other classes of fields we must conclude that every body "acts on" every other body. From the above argument for continuity it would then follow that because of this "interaction" every body in the universe is connected by a continuous medium with every other body and that not only our solar system but the whole universe, at least out to the limit of the furthestmost particle of matter, must be one great continuum. If we consider such forces of attraction as true philosophic properties of bodies it would seem to follow that the material world is by nature continuous and that *discontinuity* is physically repugnant.

Such a conclusion would seem to me to be less acceptable to both Philosopher and Physicist than the rejection of the molecule as an "unum per se."

If it be argued that such a conclusion is preferable to the acceptance of action at a distance I would agree only to this extent; that while "action at a distance" should be rejected, the postulation of a *continuous* medium for the transmission of force is not the only other alternative. We have for example the propagation of energy by sound waves which takes place in the medium of air, which medium is in no physical sense continuous, but rather made up of discrete molecules and atoms.

I am not thereby postulating that the mechanism of the propagation of force fields in space is identical with that of waves in elastic media, but I am maintaining that until *all other possible* means of field propagation are excluded as physically repugnant we are in no

way logically bound to accept the "continuous medium" theory.

"Natural Unity" of Molecule

Returning to the initial question regarding the "natural unity" of the molecule it would seem that the position of Physical Chemists and Chemical Physicists to-day is such as to repudiate "specific forces" as necessary to explain affinity or valency,—at least in the sense that such forces are "specifically" or essentially different from the forces which we have been considering above. Dr. J. C. Slater, Head of the Physics Department at M. I. T., in the Journal of Applied Physics, Vol. 8 p. 385 June 1937 says: "... The quantum theory has not changed the fundamental fact that all inter-atomic and inter-molecular forces of significance in the structure of matter are electrical or in some minor cases magnetic." This position may be thoroughly confirmed by a study of Dr. Slater's book "Introduction to Chemical Physics" (McGraw-Hill Co.) especially Chapters X and XXII. If we accept this as correct, there would seem to be no more reason for accepting the molecule as a "natural unit" than for admitting that the solar system partake of the same such unity. The parts of each are united by forces; and if anything the constancy and regularity of those forces holding the planets in their orbits seems greater than the constancy of those which bind the parts of the molecule. In fact to-day, while the motions of the planets can be predicted with high accuracy, the motions of the particles in a molecule or atom and in fact the very stability (or lack of stability) of an atom can be calculated only on the basis of the laws of probability, so that as far as our knowledge is concerned it is chance which enables us to predict the position and velocity of a particle of atomic dimensions, and this only to certain specified lower limits. Thus the intrinsic finality which we expect to find in a supposit remains elusive when sought in the molecule. In what sense, then, is it a more natural unit than the other systems of the universe whether they be planetary or galactic?

Concerning the second point raised by Mr. Tipton; a similar line of reasoning is applied to crystalline structure, specifically employing the field of force of a bar magnet as an example or rather as an analogy. The notion of the dimensions of a magnet is extended and a distinction made between "actual dimensions" and the extension of the field of force. It is said that the "quid substantiale" of the magnet must be coextensive with the "larger continuum, the field of force". Again as far as the argument is concerned it would seem to make no difference whether or not we consider the dipole nature of the field of the bar magnet, or whether the field in question be solenoidal or lamellar; the point at issue is: does this field and every other field of every other body extend without limit?

If this be true and if the "quid substantiale" of every body is coextensive with its field of force, then the material world is in a state of universal compenetration, since it is a demonstrable fact of physics that fields of force may overlap and be superimposed.

This also would seem to be a conclusion a bit more disconcerting than the rejection of the substantial unity of the molecule.

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A Rejoinder to "Molecular and Atomic Continuity"

Needless to say, I am pleased that one so competent in physical science as Father O'Connor should discuss my paper on the supposit. But that paper attempted only a defense (not a positive proof) of the molecule as a supposit, and a defense against a single objection—the objection, namely, that the molecule is composed of widely separated particles. My answer was that the particles have not been shown to be totally disconnected with one another, rather the evidence is that they are connected by some medium within the molecule.

Again, I was careful to specify an *isolated* molecule, as in a rarefied gas, because I did not wish to become involved in the question of the crystalline, liquid, and vitreous states of matter. And while I defended the internal continuity of the molecule as a fact, I did not contend that such continuity is *necessary* in order that the molecule be a single supposit. Nor did I say that it must be discontinuous

with the rest of the world. I did however maintain that the molecule is an *unum per se*. So I do not see that I am touched by any of Father O'Connor's strictures except the one about the *unum per se*.

Action Through a Medium

In reviewing the whole situation the first question is this: If one defends the continuity of the molecule by the argument that there must be a medium through which the component particles act on one another, does not this logically lead to the conclusion that there must also be a medium through which one molecule acts on other molecules, with the result that "the whole universe . . . must be one great continuum?"

There are two axiomatic propositions concerned here. First, we may hold, with regard to corporeal substance, *Omne individuum est continuum*. Yet we must recognize that this proposition may not

logically, by simple conversion, be made to read: *Omne continuum est individuum*. In fact there are cases where what is seemingly one continuum is known to be more than one individual. Siamese twins, for instance, have just as continuous bodies (so far as we can discover), or body, as is the ordinary human body, yet they are two distinct persons, two supposits. Hence it would seem that a plurality of supposits need not be quantitatively discrete. The second axiomatic proposition is, *Omne unum est indivisum in se et divisum ab omni alio*. But does the "divisum" require quantitative division? The axiom must apply to every *unum*, so that we speak of angels as distinct supposits although quantitative discreteness does not apply to them. Nor does quantitative discreteness serve to make species distinct. And since a body's supposital unity means *more* than its mere continuity, why must its distinctness from other supposits be conditioned only on its discreteness? Why must the universe be one supposit even if it be one continuum?

There is no need however to hold that the whole world is a single continuum, for the reason that contact (contiguity) suffices for one body to influence another. The effect of a force, insofar as it is transient (not immanent), is never in the subject or cause; it is in some other body or bodies. And here we come to Mr. Tipton's statement. I take him to mean that because the field of force, whether lamellar or solenoidal, extends indefinitely beyond what is assigned as the perimeter, or "dimensions", of, e.g., an electron, there must be something substantial extending as far as the field extends. But the "quid substantiale" is not to be identified with the electron itself. He does not say, with Whitehead, that "an electron is its whole field of force." (*The Concept of Nature*, p. 159) He evidently means that the field, the effect, does not exist in an absolute vacuum, it is not an accident floating in space without anything substantial to inhere in. The effect must exist in bodies, *other* bodies. On this understanding he does not require that all bodies totally compenetrates one another.

Father O'Connor suggests that the two problems of universal continuum and universal compenetration can be avoided if we "reject the molecule as an *unum per se*". What if we do? The electron, positron, and proton by their fields of force still act *simultaneously* on all the other particles in the universe. Action at a distance being disallowed, there must either be a medium, or the particles themselves must be simultaneously present everywhere, and so once more we are confronted with the problems we had hoped to avoid.

Different "Natural Units"

A further comment is necessary. The solar system or a galactic system is not the same sort of "natural unit" as a molecule. In a solar system "every body attracts every other body". Surely Father O'Connor does not wish to infer that in the same way every particle in a molecule simply attracts every other particle. The negative particles *repel* one another. So do the positive. Only unlike charges attract. Besides, the attraction is for only *one* of the opposite. Whereas gravitation neither selects the objects it attracts nor ceases at any assignable number. The very quotation from Dr. Slater mentions "electrical" forces, which, because they act as described above, are totally different from gravitation. And there are many other

differences which show that the two units are not on a par. Hence one may hold that a molecule is an *unum per se* without being forced to hold that the solar system, or the whole universe, is such. And when we say a molecule has a specific "stability" we do not stress fixity or endurance, we mean a certain property known (within limits) from experiment and due to proper accidents as opposed to contingent. In my previous article I mentioned that different substances have in different degrees this sort of intrinsic finality.

"Probabilities"

Wary of both medium and action at a distance, Father O'Connor suggests some such alternative as is exemplified by the propagation of sound in the air. But even here the particles (electrons, nuclei) do not come so near that their "boundaries" are in contact; there is a kind of "cushion" between them, which means either a medium or action at a distance. Besides, there being no ether—for that is a medium—a molecule completely out of contact with others would be in a total vacuum. How, then, could it exert an attraction, a pull across the void, without action at a distance? We might, of course, maintain that we in our day have insisted too much that no body can move unless pushed or pulled by another or other bodies. We might agree with Aristotle that each elemental particle has a certain "go" of its own, a "*motus naturalis*", by virtue of which it shapes its own course, while other bodies serve as mere external conditions. That is a way out—if we wish to take it.

Instead of any such explanation, Father O'Connor wishes to fill the gaps between particles, if I may so express it, with "probabilities". Probability has to do with the accuracy of our *knowledge* about the position, velocity, or boundaries of a particle, say an electron. But by probability *alone* it is difficult, if not impossible, to set any outside limits; there is no place, except perhaps the "singularities", where there is absolute zero electron. Probability permits thinning out but not perforation of the field. The *reification* of this concept means, once more, universal compenetration. As a descriptive device, which it is, probability does not deny that the electron is confined to a limited region, it merely confesses it does not know just *which* region. Hence it does not deny gaps, nor media. An actually existing continuum, on the other hand, does not need to be perfectly "solid", a continuum does not have to be continuous along all lines, but only along some line or other; it may be netlike, spongelike, fibroid, or of some as yet unimagined structure; it may be severed and healed. Two continua may *interpenetrate* without *compenetrating*. So, if you like some such picture you can dispense with the ether, and have a molecule which is both continuous and an *unum per se* and at the same time discontinuous with the rest of the world. But the ether need not be solid nor inelastic.

I wish only to add that I am glad Father O'Connor is not one of those who fancy that philosophers are content to stand on lofty peaks and shout commands to the rest of the world. Instead they must reach the peaks, and hold them, only by constant contact with the world of both common and of scientific experience.

St. Louis University

James A. McWilliams

Book Reviews

THE NATURE OF THOUGHT

Brand Blanshard

Macmillan, New York, 1940, 2 volumes: pp. 654 and 532, \$8.00

If a man is tempted to despair of the possibility of the true philosophic temperament in our modern United States, this work by Professor Brand Blanshard will be a cheering and refreshing encouragement. It is in full truth a philosophical achievement, as well in its spirit as in many individual passages. As examples of the latter, we might point out discussions of the difference between idea and image, of behaviorism, and of pragmatism (vol. I, pp. 259-312, 313-341, 342-393), of observation, empiricism, logical positivism, causality

(II. 78-95, 335-355, 399-423, 495-511). On the other hand, some analyses are unsatisfactory because they are merely dialectical (e.g., that sense data cannot verify anything II. 230-232; other passages, II. 246, 325-326); others because they take an excessively limited view of philosophical positions (realism is presented only as Neo-realism and Critical Realism I. 394-443). There are, again, controvertible stands: the nature of abstraction, the meaning of traditional (Aristotelian?) logic, the implications of universal intelligibility for the structure of metaphysics.

Though these points are involved in the main problem of the book, and might profitably be discussed, the limitations of a review forbid

such a detailed analysis. We would like, rather, to take the very kernel of the book and submit it to analysis. We are told, first of all, that a boy's knowledge of Waterloo is to his mature knowledge of the same battle, as a seedling is to the full-grown tree. And to this conclusion, that general knowledge is in potency to the more determinate and specific, we are glad to yield assent. But we read, further, that the intimate nature of thought is such that if it were fully actualized, it would be its present object (II. 262, 428; I. 620-626, 500-520). An idea is to its object like the seedling to the tree it later becomes. Professor Blanshard has faced a number of objections to this theory in the last of the passages indicated, but to the truly decisive one "that physical existents are different from anything mental in kind" he has offered the very odd answer that some sensations cannot be distinguished from images. Of course, the "argument" is classical in the particular school to which the author subscribes, but not even age nor the authority of Berkeley and Bradley can lend it relevance. The point that Professor Blanshard should have faced is the evidence given in every certain judgment. Reality, as the author himself says, "... is independent of our thought and demands conformity from it The acceptance of some such reality belongs to the very heart of assertion" (II. 421). This "independence of the real" implies not only an absence of that modality conveyed by the word "our," but also of the modality expressed by the word "thought." My thought of any natural object, say a tree, differs from that tree, not only as "mine" from "not-mine," but also as the "understanding of the tree" from the tree. In fine, the different modes of being and of knowledge—the difference in kind between physical existent and idea—are implied in all our assertions about physical things.

Further, if we can even raise the question: what is the measure of "the fidelity of our thought to reality"? (II. 267) if we often make judgments "asserting a necessity understood to be imposed on us by the real world" (II. 420), we might say that thought is to reality as the seed to its parent tree. Even this statement would need qualifications before it could be accepted as an accurate account of the knowledge relation.

But if we take Professor Blanshard's answer less in its wording than in its intent, we can see its value. Thought has an object which is in some way over and beyond itself—a transcendent end, in the author's words. More important (as he shows in his discussions of empiricism, pragmatism, and logical positivism), there is a necessity in thought, over and above any subjective affection. Thus, thought is in some way related to (dependent upon) this object. The relation, however, cannot be that of a passive mirroring; there must be in some way or other a real identity. After reasoning accurately thus far, the author chose as his analogy that between an object in becoming and the same object in full achievement. This identity sacrifices that independence of the real world implied in every judgment. The way out is offered by formal identity—that identity between thought and its object secured through a community of form, which serves as a principle of being in the object and a principle of operation in the knower.

GEORGE P. KLUBERTANZ.

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THE PSYCHOLOGY AND ETHICS OF SPINOZA

David Bidney

Yale University Press, New Haven, 1940, pp. xv + 454, \$3.75

The thought of Benedict Spinoza lends itself peculiarly to various and often contradictory interpretations, a fact which makes Dr. Bidney's work, insofar as it attempts to reflect accurately the mind of his subject, another milestone in a long tradition of disagreement. Those modern defenders of Spinoza who, with Santayana, profess to find in his philosophy "one of the most single-minded and consistent that has ever been framed," or who, like Hallett, attribute apparent inconsistencies to the traditional exposition of the system rather than to its originator, will probably refuse to follow Dr. Bidney in a commentary that takes the text as it stands and, interpreting it in its historical background, explains the difficulties without attempting to explain them away.

Dr. Bidney finds in Spinoza no such inner harmony as others have professed to find, and it is the merit of his study to have shown how these inconsistencies are the natural and inevitable result of Spinoza's position in the history of philosophy. The fundamental thesis of the book is that Spinoza can only be understood in relation to the tradition of Christian philosophy of which he was necessarily an heir, and to the new science whose method he attempted to impose on this body of knowledge. In chapter after chapter Dr. Bidney shows the continuous and inevitable conflict as Spinoza tried to fit human nature and activity into the *a priori* forms of mechanistic atomism, and how this conflict drove him to conclusions entirely out of harmony with ideas previously and subsequently expressed.

It would be misleading to give the impression that Dr. Bidney himself finds grave reason for condemnation in this internal inconsistency. That he does not is something of a puzzle to this reviewer, though perhaps it can be explained in the following statement of the author regarding the purpose of his study: "We wish to emphasize, however, that in making this criticism, [of internal inconsistency] we do not refer to the truth value of Spinoza's work as judged by the present writer's or any other contemporary standard." The reader of the book is laboring under no such limitations. Inconsistencies and those "equivocations by which he could demonstrate almost anything he wanted" cannot be justified by attributing them, as Bidney suggests, to his "all-inclusiveness." As M. Gilson so succinctly puts it, "Truth is one and bad metaphysics seldom pays."

In a work of this size there are bound to be defects. Dr. Bidney will be accused of misinterpreting Spinoza (I am aware that some have already done so) and there are instances where this charge can be justified. Moreover his understanding of Scholastic philosophy is not always adequate for the large use to which he puts it. He seldom distinguishes between the philosophies of Aristotle, St. Thomas, and the decadent schools from which Spinoza revolted, a fact which sometimes hinders him from seeing the full extent of the inconsistencies involved in the *Ethics*.

It must be said, however, that Dr. Bidney has done an important and difficult piece of work, and with a large degree of success. The critical study of Renaissance philosophers in relation to the tradition from which they revolted will serve to emphasize the fundamental differences that exist today between the living philosophy of St. Thomas and contemporary philosophic thought.

RICHARD H. GREEN.

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CHRISTIAN ETHICS IN HISTORY AND MODERN LIFE

Alban G. Widgery

Round Table Press, Inc., New York, 1940, pp. ix + 318, \$2.50

The present volume, though interesting, can hardly be called a significant contribution to scholarship, for it lacks a certain exactness and definiteness that would be needed to put it in that class.

The first four chapters might well be renamed, "History of Morality from the Standpoint of Modern Protestantism." The remainder of the book is an interpretation of morality from the same point of view. Of course, not everything can be said about nineteen centuries of world activities in the compass of a short work, but this reviewer somehow gets the impression that the selection is such as to imply that wherever Catholicism and Protestantism differ, the latter is superior. The author justly deprecates one-sided delineations of the Middle Ages, and proceeds to astound his readers by citing such authorities as Lecky and the arch-enemy of all things Catholic, viz. Coulton, whose scholarly stupidity has been pointed out on more occasions than one. Criticism of "the Church" is somehow made to sound like criticism of the Catholic Church alone, though the same applies with at least equal truth to others.

It is not clear from this book just what "Christian ethics" means: Is it the moral doctrine taught by Christ? Or is it the many conflicting tenets held by deluded followers who for eighteen centuries considered Him divine, and by modern Protestants who have seen and rectified his (not His) errors? "Jesus accepted the traditional

view of his own race that man is body and soul." "Jesus and his immediate followers shared the monotheistic belief of the people of Israel." At times Jesus exaggerated (because the author does not understand the genius of oriental language), did not understand (as modern Christians do) the full nature of man, contradicted himself. But it is idle to speak of Christian ethics without the divinity of Christ, and at present "Christian ethics" is plunging into bankruptcy precisely because it is neglecting or denying this divinity and borrowing heavily on an effective capital of past ages. What an obscure Galilean moralist had to say 1900 years ago is now of no practical significance to us; what God has to say is alone of paramount significance.

There are refreshing pages where the author shows clear discernment: for example, a personal God does not mean a God who is a human person. But there are other instances in which he disappoints the reader by a lack of precision: the Catholic Church is said to have defended "the divine right of kings." The Catholic Church is said to grant "annulments" which have the same effect as divorces. He does not quite understand the Church's doctrine on birth control. He might have undertaken to explain why the Church has always numbered Matrimony among the seven Sacraments; and he might well have considered the settings of some of the patristic explanations of virginity and matrimony; though he is correct in his contention that the Catholic Church considers ascetical continence *per se* superior to sexual enjoyment. But it must not be forgotten that both in ancient and modern times the Church has canonized married men and women as Saints.

This reviewer does not understand the purpose of the book—though surely it must have a purpose. With the author we all agree that not all Christians have always lived up to conduct approvable by Christ; but it is not clear whether the author wants to tell us of this divergence, or to tell us the Christian principles and their mutual contradictions, or to defend the principles, or to establish a norm of morality by reason and independently of Christianity.

There are a few inconsequential errors, such as the statement that Aquinas called Aristotle "Master"—instead of "The Philosopher." *Magister Sententiarum* (often shortened to *Magister*) was the scholarly nickname of Peter the Lombard who in the 12th century wrote *Libri IV Sententiarum*. S. J. RUEVE.

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A PHILOSOPHY OF SCIENCE

W. H. Werkmeister

Harper & Brothers, New York, 1940, pp. xii + 551, \$4.00

As a book on science, this volume is interesting and instructive; as a book on philosophy, it is confusing and incomplete.

Beginning with a brief resumé of the history of science, the author proposes his philosophical tenets and then proceeds with an analysis of the facts or assumptions basic to language, mathematics, physics, chemistry, and biology. He presents a critical account of the latest developments in each of these branches of science and reveals the rather confusing and conflicting *mêlée* of theories and hypotheses now jostling one another for supremacy in the interpretation of scientific discoveries. In two instances—the origin of the universe, and the origin of life—he succeeds in discarding every theory thus far proposed for their explanation on the basis of purely natural causality. Since he deems creation an unwarranted attempt to explain these phenomena, he is forced to conclude that all is still shrouded in "unfathomable mystery." His exposé of the fluctuation of certitude in regard to scientific "facts" from Newton's rigidism through Heisenberg's "principle of uncertainty" back to the rigidism of contemporary wave mechanics should rouse many scientists from their "dogmatic slumber" to a realization that their hypotheses are only hypotheses after all and are not to be taught as "indisputable facts" that will displace anything in another field of knowledge happening to conflict with them.

In treating the problems of space and time, Professor Werkmeister subscribes to the Kantian "innate form" theory of cognition,

modified by Cassirer's "functional theory" of concepts. Since, like Kant, Werkmeister says space and time are subjective forms the thinker imposes upon "reality outside", his philosophy cannot be a philosophy of being, but only an epistemology, a theory of cognition. He fails to distinguish between the abstract concept of space in general and the concrete perception of an individual object as extended. He confines himself only to an interpretation of three-dimensional abstract extension which cannot be immediately derived from any single sense perception, and concludes that therefore space is an *a priori* form of the mind. The concept of time involves the same difficulties as that of space, hence he considers time, too, an *a priori* form.

The author is hampered by another Kantian prejudice, the persuasion that metaphysics is an illusion, though necessary to the mind. He summarily dismisses it, and rejects vitalism, the *élan vital* of Bergson, and the forces of classical (Newtonian) physics because these are "metaphysical entities" or "speculations which can but produce scepticism among men of science." (p. 506) He does not undertake to explain what metaphysicians mean by their "entities", consequently he makes no effort to refute their contentions. He is very unconvincing in his impatient jibes at "metaphysics" especially since he himself shows no indication of knowing anything about it. He devotes a chapter of forty-eight pages to "The New Conceptions of Matter" but in no instance does he treat matter in the philosophical sense. He treats of ultimate particles of matter, but ignores the status of matter as a potency.

The central aim of this "Philosophy of Science" as expressed in Chapters IV and XIV is two-fold: the establishment of a theory of cognition, and the integration of the various fields of scientific knowledge by means of this theory. Our cognition, he maintains, is bipolar—partly derived from empirical experience, partly a mental construct. Our concepts are not "copies" of reality outside but they are "rules of integrating perceptions, remembrances, anticipations, and imaginings into a coherent unity of specific objects which are 'stable' and 'continuous'; and as rules or 'principles of integration' the concepts are, furthermore, indispensable conditions of objectivity." (p. 516) The integration he speaks of is tantamount to, if not identical with, the integration of the Calculus. He mentions life as being perhaps the "integration" of all the laws of nature. By a sort of differentiation, by reducing the factors of the "whole" to zero as a limit we can derive an "instance of the law" which is then a specific law of some lower science. He believes all "reality" can be, and must eventually be, expressed quantitatively. A quantity is most perfectly expressed by an equation or "Function", hence the Calculus can become our means of integrating all "reality". Only a flight from true reality can make such a philosophy possible.

This book is intended as a text book for a full year course in the philosophy of science. The attempt to interpret all the sciences renders it rather impracticable, for no student, even a college senior, will learn enough about every science to enable him to understand a "philosophical" interpretation of all of them.

If any of Professor Werkmeister's students should use his conclusions as premises, the results are likely to be disastrous. If "basically, we understand only what we ourselves have put into our concepts" (p. 316) how can we know that the "objects" with which a science deals really operate according to any "law", or even exist? Our whole scientific system of facts may only be an illusion forced upon us by our senses. Then "laws of nature" become laws of sensation, and all science becomes a psychology of scepticism. There is little hope that this philosophy will lead to wisdom.

LAWRENCE W. FRIEDRICH.

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